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**The Evolving SkillsFuture Movement:
A Decade of Workforce Transformation**

Tan Kok Yam and Dilys Boey

Navigating the Uncharted Future of Work

Kenny Tan

**Realising a Lifelong Learning Nation:
Global Perspectives and Opportunities**

Matt Sigelman



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Editorial

by **Dr Alvin Pang**
Editor-in-Chief, ETHOS

From an unprecedented global pandemic to seismic geopolitical shifts and game-changing technological advances, the past decade has given much cause for learning and change. The pace at which we have been asked to reinvent ourselves, our skills and our work has been disconcerting — and will not relent anytime soon. For the past ten years, the SkillsFuture movement has sought to prepare Singaporeans for an uncertain future, by nurturing the attitudes, approaches and actors needed for a resilient workforce to thrive in the face of anything tomorrow might hold.

This formidable task has called for efforts that span the whole of government. In this special issue, we feature insights from current and past leaders of the SkillsFuture movement as they reflect on how it has had to adapt, learn and evolve as new challenges (and different needs) emerge.

To make SkillsFuture work, a strong network of partners across different sectors has sprung up: this ecosystem now needs to be thoughtfully tended and expanded. As a mindset of lifelong learning takes hold, and with a growing pool of success stories to draw on, experts discuss

how we can now take a more systematic, informed approach, augmented with new tools and technologies, to help Singaporeans realise the tangible benefits of career design, mindful upskilling and organisational transformation.

The Singapore Public Service is both a key enabler of this national shift, and a role model for what an empowered, skills-first and career health-oriented work culture can look like. We hear from agencies who have reinvented themselves with this spirit in mind, gleaming lessons for how organisations can work hand in hand with their people today, to succeed in tomorrow's brave new world, together.

We thank our issue partners, SkillsFuture Singapore and Workforce Singapore, for gathering these insights on the progress of the SkillsFuture movement, its evolving efforts to support both individuals and employers, and exciting prospects for the future of continual learning, career design, and workforce transformation.

I wish you an inspiring read. ■

Foreword

by **Leo Yip**
Head, Civil Service

In 2001, Singapore experienced a severe recession. The dot-com bubble had burst and global demand for electronics fell sharply. The September 11 attacks in the US further destabilised global markets, exacerbating the economic downturn.

The Government established an Economic Review Committee (ERC) to chart a path to economic recovery, as well as longer-term strategies for sustainable growth. The ERC recognised that economic restructuring would lead to more frequent job displacements for Singaporeans, as people's skills became obsolete. It recommended the creation of a Continuing Education and Training body to promote lifelong learning, so that Singaporeans could remain employable in a rapidly changing world. This led to the decision to set up the Workforce Development Agency (WDA).

By the time we established the WDA in September 2003, the world had become even more uncertain. SARS had disrupted economies and livelihoods. Nearly 26,000 Singaporeans lost their jobs in just three months, and our unemployment rate soared to a high of 4.7% that year.

As WDA's first Chief Executive, my then team faced the urgent mission of helping over 85,000 unemployed Singaporeans re-enter the workforce. Through initiatives like the Workforce Skills Qualification system and Place-and-Train programmes, we began efforts to equip workers with the skills needed to adapt to the changed economic landscape.

WDA's efforts represented Singapore's first national push to embed skills upgrading and lifelong learning into our workforce and societal culture, laying

the foundation for what would later become the SkillsFuture movement.

A Decade of Transformation

The SkillsFuture movement was launched in 2015 to empower every Singaporean to develop skills mastery and pursue their aspirations.

In 2016, we restructured WDA to create SkillsFuture Singapore (SSG) and Workforce Singapore (WSG), to provide sharper focus to the range of work needed to drive skills development and employability. Building on WDA's decade of groundwork, SSG fostered a culture of lifelong learning, while WSG enabled quality employment opportunities.

To date, over a million Singaporeans have used their SkillsFuture Credit to upskill themselves. Our Work-Study Programmes have also helped graduates secure better wages, and supported many jobseekers and mid-career workers in making successful career transitions.

Familiar, Yet Different Waters

Today's operating context is once again uncertain and volatile. But this time round, economic headwinds, trade tensions, and geopolitical contestation have introduced new challenges. We also face a pace of technological advancement that has made some skills obsolete faster than ever. But these new challenges also present new opportunities for us.

The Public Service stands at the forefront of responding to these challenges. Among other efforts, the Government is charting out

a new economic blueprint for Singapore, and fundamentally rethinking the skills our workforce needs to stay ahead of disruption.

For example, the ability of AI to replicate and even outperform human tasks can create anxieties for workers. Yet AI also offers significant productivity gains. Many of our public officers already use tools like Pair to support them in drafting meeting notes and speeches. Our frontline agencies also deploy AI chatbots, among other tools, to improve operations and service delivery.

To harness AI effectively in our work, the Public Service must find new ways to add value from the use of this new technology. This starts with being open to new ideas and new ways of working.

Building a Future-Ready Public Service

We are not starting from scratch. Over the years, we have stepped up our efforts to strengthen skills training and lifelong learning across the Public Service.

One such area is in mastering technology. Since last year, the Permanent Secretaries and Senior Public Service Leaders have undergone digital training on a variety of topics, including modernising digital products, data, and AI. These equip us to make better decisions as we drive digital strategy, build capabilities, and effect change in our organisations.

We are progressively equipping all our public officers with digital, data and AI (“DDA”) skills, so that every officer can mainstream these tools in daily work. We have recently rolled out a mandatory AI literacy course for all public officers.

We have also developed new support tools for skills training and lifelong learning. For example, CSC’s enhanced LEARN platform personalises the learning experience for every officer, tailoring recommendations to them based on their jobs and career goals. Officers and supervisors can also use the One Talent Gateway to explore career pathways and access development opportunities.

These efforts are not merely boxes to tick or tools to download. They embody the spirit and mindset of lifelong learning that each of us must commit to, and actively participate in.

I ask that each of us make lifelong learning part of our regular routine. Dedicate at least an hour weekly to learn something new or try a new AI tool. Apply this knowledge to improve our daily work processes. Encourage your colleagues to do the same. Because it is this attitude of continuous learning and growth that will allow us to keep making our Public Service better than it was yesterday.

Our Continuing Mission

The Singapore story has always been about defying the odds, through resilience, tenacity, and the relentless pursuit of excellence. As stewards of this story, we must regularly ask ourselves what it takes to keep the Singapore story going.

The answer will evolve as the world continues to change, technology advances, and our people’s needs and aspirations evolve. We will therefore have to continually adapt and innovate to ensure our governance stays relevant and effective.

The SkillsFuture movement — and the spirit of lifelong learning that it champions — is central to this effort. When we commit to continuous learning, we ensure that our Public Service stays adaptable and future ready. We also help to uplift skills and workforce development across industry sectors, through our agencies’ roles as industry regulators and developers. Most importantly, by role-modelling this spirit, we demonstrate to Singaporeans that transformation is not something that happens to us, but something that we can make happen ourselves. In doing so, we exemplify how to embrace change, pursue growth, and contribute meaningfully to our nation’s continuing story.

Together with Singaporeans, this is how we will keep writing the next chapter of the Singapore story. ■

THE EVOLVING SKILLSFUTURE MOVEMENT

A DECADE OF WORKFORCE TRANSFORMATION

by Tan Kok Yam and Dilys Boey



Singaporeans can look forward to thriving, dynamic workplaces in future – with smarter job and career design, and clearer tangible benefits from continual learning and upskilling.



Tan Kok Yam is the Chief Executive of SkillsFuture Singapore (SSG), the agency that drives and implements the national SkillsFuture movement. Under his leadership, SSG strives to promote a culture of lifelong learning, build a support system to enable the pursuit of skills mastery, and raise the quality of adult education and training in Singapore.



Dilys Boey is the Chief Executive of Workforce Singapore (WSG). She is leading WSG on its mission to enable Singaporeans to access good job opportunities and build their careers at every stage of life, while supporting employers to create good jobs for Singaporeans and develop an agile workforce.



The SkillsFuture movement seeks to equip our workforce for economic growth and our workers for career advancement. These objectives are clear but never static: they continually evolve with changing economic conditions and external pressures. Contemporary challenges such as the COVID-19 pandemic and transformative trends like artificial intelligence underscore the need for an adaptive approach capable of supporting increasingly broad and dynamic goals.

What began under the Workforce Development Agency (WDA) a decade ago has since evolved into a coordinated effort along two fronts, when WDA restructured into SkillsFuture Singapore (SSG) and Workforce Singapore (WSG) in 2016. SSG has since further advanced individual skills development and training, while WSG has continued the former WDA's

mandate in promoting employer-centric reskilling, employment, and career development initiatives.

There has been substantial progress in building the foundation of the movement. In the next phase, there will be greater emphasis on training quality and relevance, ensuring that the skills and training landscape delivers meaningful outcomes for both workers and employers. Since 2018, approximately 500,000 individuals have participated in MOE/SSG supported programmes yearly. In addition, the number of employers engaged in training has doubled from 12,000 in 2018 to 24,000 in 2024. Additionally, since 2022, the large majority of trainees have reported improved work performance after SSG-supported training.

Given the rapid pace at which skills evolve, our programmes and our training supply must be continually responsive



Over the past ten years, we have invested significantly in building the capacity and capabilities of our continuing education and training ecosystem. This has been a key enabler of the SkillsFuture movement. In particular, the Institutes of Higher Learning have embraced continuing education and training as a critical part of their mission. Building on our strong foundation of education in the schooling years, we are now also preparing graduates and workers for lifelong learning and skills upgrading, to maintain relevance across longer working lifespans.

Lim Wan Yong,
Permanent Secretary (Education), Ministry of Education



The first decade of the SkillsFuture movement has been transformative for Singapore. It has instilled a culture of lifelong learning among Singaporeans and reinforced the importance of employers investing in their workers to build a more skilled workforce. These efforts have strengthened Singapore's competitiveness in a rapidly evolving global economy.

Ng Chee Khern,
Permanent Secretary, Ministry of Manpower

to market needs. Thankfully, with technological and data advances, we can make better use of more data — encompassing job postings, applications, and résumés — to identify potential shortfalls and more effective responses to skills and training needs. Historical challenges in securing employer engagement have also diminished through increased awareness and stakeholder buy-in.

While the SkillsFuture movement has successfully established mindshare, it remains predominantly associated with training, despite having jobs and employment as integral components since its inception. Moving forward, the movement aims to re-emphasise the jobs and employment aspects, alongside the skills development and training elements.

Key to this shift is the close alignment between skills development and employment functions to create mutually reinforcing outcomes. By tightening what we call the “jobs-skills nexus”, we can now foster lifelong learning while enabling tangible employment outcomes that individuals and employers expect from skills investments.

ALIGNING SKILLS AND EMPLOYMENT OUTCOMES

Indeed, these objectives are interconnected: providing individuals with the skills to access quality job opportunities and progress in their careers while ensuring companies can access the capabilities needed for growth. Success demands a structured approach that recognises these interdependencies.

As the SkillsFuture movement evolves beyond culture-building and mindset transformation, it is increasingly



addressing the need for structural shifts within organisations. This includes encouraging employers to redesign jobs to meet business needs, upskill and reskill its workforce, chart career pathways for their workers and restructure promotion, compensation, and incentive frameworks. Such initiatives would have been premature a decade ago, when the requisite conceptual frameworks and systematic methodologies for deconstructing jobs and linking tasks to skills were not yet established.

Today, these efforts still represent frontier work globally. Organisations worldwide are grappling with the challenge of articulating roles not as traditional occupations but through constituent tasks and associated skill requirements, in ways that enable practical application by employers. Successful implementation would significantly expand hiring pools

by shifting focus from historical experience and occupational categories to demonstrated competencies. This approach would enhance employers' confidence in workforce investments through clearer return-on-investment projections while serving as a mechanism for talent attraction and retention.

The broader trends of digitalisation and artificial intelligence suggest that current occupations will likely evolve rather than disappear, fundamentally altering required skill sets. Such transformations must be examined through both employment and skills perspectives. This dual lens approach will allow workers to better understand emerging role requirements and develop targeted upgrading strategies to enhance their career prospects and outcomes.

These goals have consistently guided the movement's direction. The next

Everyone has a role to play, as we continue to deepen the culture of lifelong learning in Singapore. Individuals need to take ownership of their lifelong learning journey. Employers need to better identify and articulate their skills needs, invest in skills development of their workforce, and recognise and reward skills and competencies. Training institutions must continually refresh their training curriculum and innovate their programmes to meet these industry needs. Ultimately, the SkillsFuture movement must bring benefits to Singaporeans, in lifelong learning and continued employability.

Lim Wan Yong,

Permanent Secretary (Education), Ministry of Education



The pace of change is accelerating rapidly, driven by shorter economic and technological cycles. As we look ahead, the movement must now focus on ensuring that skills acquisition enables Singaporeans to build fulfilling careers. As Singaporeans upskill and seek out new opportunities, employers must also be encouraged to hire based on skills, and be more intentional in developing their workforce. Empowering Singaporeans to proactively manage their careers, and helping employers take a skills-first approach to hiring and workforce development is what we aim to drive through the newly launched Career Health SG initiative.

Ng Chee Khern,
Permanent Secretary, Ministry of Manpower



wave of innovation lies in more deliberate coordination between agencies and stakeholders to address these challenges in a front-facing manner. For example, when individuals consult Skills Advisors regarding appropriate courses, advisors equipped with comprehensive career knowledge can facilitate more informed decision-making and strategic upskilling planning.

This approach aligns with the original spirit of the SkillsFuture movement: enabling individuals to take ownership and drive their own career and skills journeys. This may encompass advancement within current roles or transitions across different positions. The next phase aims to enhance individual agency through better information, improved tools, and integrated advisory

services. Concurrent efforts will focus on helping employers better understand and use skills-based language in organisational planning and human resource management.

FROM GOVERNMENT PROGRAMME TO NATIONAL MOVEMENT

To succeed in the next bound, the SkillsFuture movement requires three fundamental enabling factors: strategic information provision, capability building, and targeted funding mechanisms.

The government can signpost by disseminating information that enables both individuals and employers to make more informed decisions. The objective is to minimise information



asymmetries and provide appropriate guidance to avoid decision paralysis. This calls for careful curation to help stakeholders accurately assess training value and make strategic choices aligned with emerging market demands.

When companies are ready to adopt skills-first practices and invest in workforce development but lack implementation knowledge, the government can also provide the necessary frameworks and toolkits to help them progress towards their goals. This capability-building function ensures that good intentions translate into action and practical outcomes.

While funding is the most evident form of government intervention, subsidies must go beyond mere financial support. Funding mechanisms should serve as incentive and priority-signaling

mechanisms to influence decisions and behaviours in the desired directions.

The challenge lies in avoiding excessive government intervention that might discourage non-governmental participation, which could undermine the vital sense of shared ownership essential to this national agenda. Over the next decade, emphasis must shift towards fostering whole-of-society engagement in the SkillsFuture movement, building capabilities that unlock greater non-government contribution.

The conceptualisation of SkillsFuture as a movement rather than a programme or campaign reflects its fundamental purpose: catalysing a cultural transformation that strives for adaptability and resilience, through proactive skills development and continuous learning. This goes beyond training for specific purposes,

As public officers, all of us must also be lifelong learners, and continually pick up new skills and capabilities that help us to do our work better. Now that the Public Service is using a Competency-Driven Growth framework, colleagues can more clearly identify and work on the competencies needed for their current job requirements, as well as prepare themselves for future work opportunities. One recent development is how AI has fundamentally transformed our work, similar to other sectors in the economy. All of us can and should learn to use AI better so that we can serve Singapore and Singaporeans better.

Lim Wan Yong,
Permanent Secretary (Education), Ministry of Education

The Public Service must lead by example, fostering a culture of continuous learning within our agencies and equipping public officers with the skills needed to navigate emerging challenges.

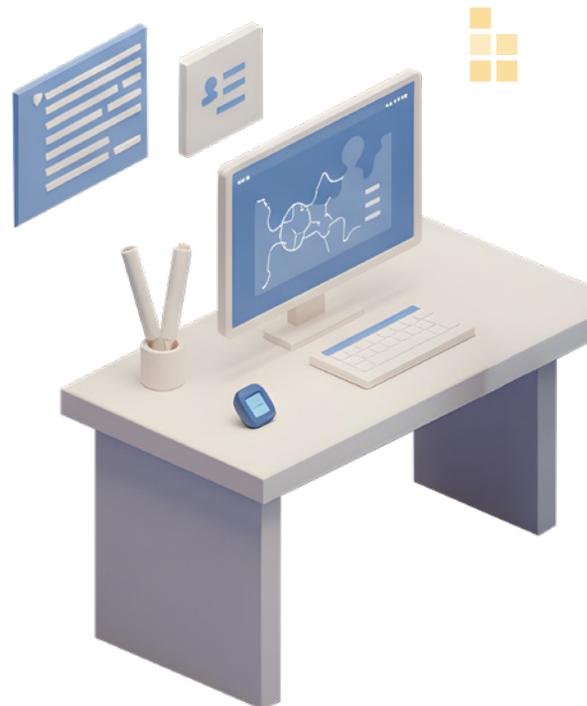
This is what PSD's Career Fitness seeks to achieve. As public officers, we can embody the values of SkillsFuture by staying curious, embracing change, and actively seeking opportunities to grow.

Ng Chee Khern,
Permanent Secretary, Ministry of Manpower

to a broader definition of self-improvement, driven by a desire to learn more broadly and deeply, to excel at a particular craft, and to be useful to society in a particular way.

The success of the SkillsFuture movement ultimately depends on achieving a delicate balance between strategic government enablement and authentic societal ownership. As Singapore transitions from the foundational phase of building infrastructure and awareness to a more mature phase of embedding lifelong learning into the national fabric, the three enabling factors must work in concert to create an ecosystem where continuous skills development becomes instinctive rather than imposed. The movement's evolution from government initiative to national culture will be measured by the extent to which individuals, employers, and communities naturally embrace adaptability and learning as core values. This transformation demands sustained commitment to nurturing ecosystem

capabilities while maintaining strategic coordination, so that the SkillsFuture movement becomes a genuinely shared endeavour that strengthens Singapore's collective resilience in an ever-changing global economy. ■



OPINION



Saving Livelihoods Amid the Pandemic

by Ong Tze-Ch'in

Covid-19 tested the resilience and relevance of the SkillsFuture movement like nothing before. The Chief Executive of the SkillsFuture Singapore agency at the time shares his story of the fight to support workers in an unprecedented crisis.



Ong Tze-Ch'in was appointed Chief Executive of SkillsFuture Singapore (SSG) and concurrently Deputy Secretary (SkillsFuture) in the Ministry of Education in December 2019. He oversaw the rollout of the Next Bound of SkillsFuture in 2020 and guided SSG towards developing its annual skills report, with the inaugural edition — “Skills Demand for the Future Economy” — being published in 2021. Under the Next Bound of SkillsFuture, Tze-Ch'in led SSG in enhancing the role of enterprises in SkillsFuture, through strategic SkillsFuture Queen Bee partnerships. He also led SSG through the introduction of a number of COVID-19 related schemes and programmes.

Since November 2023, he has served as the Chief Executive of PUB, Singapore's national water agency.

My tenure as the Chief Executive of SkillsFuture Singapore (SSG),¹ from Dec 2019 to Nov 2021, coincided with much of the COVID-19 pandemic in Singapore, and was thus closely tied to SSG's contributions to help save livelihoods during the crisis.

The start of my tenure as CE, SSG saw the launch of the Next Bound of SkillsFuture, which included, among other things, a \$500 top-up of the SkillsFuture Credit for every Singaporean aged 25 and above in 2020, and the SkillsFuture Mid-Career Support Package, which included another \$500 top-up of the SkillsFuture Credit for Singaporeans aged between 40 and 60 in 2020. These schemes, announced at the Unity Budget in February 2020 to be made available from 1 Oct 2020, were moves to address the longer-term trends we were seeing in Singapore. Retirement ages were getting pushed back. Careers were getting longer. Jobs would be impacted by rapid technological changes. Taken together, we expected that every individual would experience multiple episodes of job disruptions in his or her working life. This would be particularly acute for mid-career individuals in their forties and fifties, who might not have the relevant skills and competencies to take on the new

job roles being created in the rapidly changing economy.

Very soon after this milestone, COVID-19 started to take root in Singapore. The call went out to jobs and skills agencies to address the economic impact the pandemic was set to have on companies and workers. In SSG, we looked back to the last economic crisis — the Global Financial Crisis of 2008 — and reviewed the policy interventions from that time. From there, we quickly put together our Enhanced Training Support Package (ETSP), a series of measures to support companies in the anticipated economic downturn. The design of the ETSP was meant to incentivise companies to send workers for training during this downtime, so that they could be better positioned for the eventual economic recovery.

The ETSP was eventually announced in the government's Resilience Budget in March: its second Budget of 2020. We targeted companies in severely affected sectors, such as the tourism and food & beverage industries. For companies in these sectors, we raised subsidies for training course fees up to 90%. More importantly, we raised absentee payroll payments to all companies across all sectors, to 90% of the worker's basic hourly salary, up to a cap of \$10 per hour: these were

very generous terms. The scheme was also designed to favour the upskilling and reskilling of rank-and-file workers, who typically do not have as many training opportunities. Eventually, over 240,000 training places were taken up by the affected sectors from March 2020 to December 2021.

At the same time, we were under pressure to bring forward the use of our SkillsFuture Credit top-ups. The original activation date, 1 October 2020, was just too far away: affected individuals needed the credits urgently to attend courses during what was already a period of economic downturn. The real constraint to this was our IT infrastructure. We needed to re-program our systems to take in the SkillsFuture Credit top-ups, which were designed differently from the original SkillsFuture Credit scheme, and to disburse them properly to training providers.

Recognising the urgent need for individuals to be able to take up training as soon as possible, we worked with our universities, polytechnics and the Institute of Technical Education, as well as NTUC Learning Hub, to accept the early use of the SkillsFuture Credit top-ups from 1 April 2020 onwards — even though our IT infrastructure were not yet ready for this transition. We would only be able to reconcile our

Even as we sought to scale up training, COVID-19 measures came into effect, impacting how we could conduct training.

accounts with these training providers after 1 October. Still, we pressed on. It was an extraordinary measure for an extraordinary time.

Even as we sought to scale up training in this period, COVID-19 measures came into effect, impacting how we could conduct training. First, Singapore's "Circuit Breaker" restrictions in April and May 2020 meant that no one could go out at all. This was then quickly followed by safe-distancing measures, including restrictions on how many students could take a class physically together. In SSG, we had to work out what essential training needed to carry on, to be granted exceptions from the various COVID-19 restrictions. We eventually determined that training for COVID-19 enforcement and related functions, as well as for severely affected sectors such as those supported by the ETSP, and training for job placement programmes, should proceed.

E-learning and virtual classrooms became mainstream during this period. It was by no means smooth sailing for

all: I remember feedback from older students who took time to get used to using Zoom for classes. There were also lower-income individuals with no access to laptops or other IT resources needed to access e-learning. To mitigate this digital gap, we worked with the then-Smart Nation Digital Government Office and Social Service Agencies, such as Engineering Good and TOUCH, to make refurbished laptops available on loan to trainees in need. We connected our SSG-funded training providers to these agencies so that other trainees who needed such support could receive it.

At that time, we had no idea that the COVID-19 pandemic would persist as long as it did. Our only prior reference was the SARS pandemic, which was fairly short-lived. Even the previous major economic downturns had been fairly short and did not warrant more and more interventions over time.

By April 2020, Singapore's economic projections were looking bad for the rest of 2020. The Government needed a scheme to put displaced

workers on training. The shock was the scale of what was required of SSG: an estimated 100,000 individuals would need to be employed in training, with the scheme to be ready by June. Up till then, SSG-funded training courses across all of our programmes catered to about 500,000 trainees a year. To add 100,000 more training places in such a short amount of time was a massive undertaking.

This charge led us to create the SG United Skills (SGUS) programme, as part of the SGUnited Jobs and Skills Package announced in May 2020 under the “Fortitude” Budget, the fourth and final Budget for the year. Thankfully, by that point, SGUS was not the only platform offering training places: the broader SGUnited Jobs and Skills

Package also provided apprenticeships and job re-deployment opportunities. Our revised SGUS target was a lower but still significant 30,000 new training places.

SGUS was a turbocharged version of SSG’s existing train-and-place programmes, put together over several online meetings with the SSG Planning Group. It was designed to be heavily subsidised and payable using SkillsFuture Credits, so there was essentially no out-of-pocket for the trainees. Beyond designing the scheme, the larger effort was to realise it on the ground. Since SSG does not offer training ourselves, our Training Partners Group sought out all of our training partners — from our Institutes of Higher Learning, our



Continuing Education and Training Centres to other SSG-funded training providers — to come on board, put together the courses and offer training places. During that difficult time, every one of our partners stepped up to do their bit for Singapore as part of the SGUS scheme.

In particular, we worked with Singapore Institute of Management (SIM) to roll out two SGUS courses in Advanced Manufacturing and Logistics. Prior to this, SSG's interaction with SIM had primarily been in its capacity as a Private Education Institution offering degrees

and other academic credentials. These two SGUS programmes were our first major Continuing Education and Training collaboration with SIM. Beyond skills content, the programmes also provided trainees with industry attachments and career preparation workshops to facilitate their re-entry into the workforce after the course.

We also developed a variant of the SGUS that partnered companies instead of training institutions. This had the added incentive of offering a higher training allowance of \$1,500. I am particularly proud of our collaboration



with Boston Consulting Group (BCG) for their Rapid and Immersive Skills Enhancement (RISE) programme. The programme equipped close to 1,800 trainees with competencies in the areas of data analytics, digital sales and marketing, digital transformation and change management. The concept was to provide trainees with the skills and competencies to support companies embarking on digital transformation efforts. Through the partnership, we were able to tap on BCG's digital capabilities, learning ecosystem and network of client partners.

Eventually, more than 15,000 trainees were placed in jobs after going through the SGUS programmes and the company-led equivalent. Placement rates were very good at almost 65% of applicants.²

Many of these initiatives were initiated in 2020 and were implemented and refined well into 2021. Even as we were delivering these training schemes for Singaporeans' livelihoods, SSG was going through our own digital transformation efforts in moving

to new public-facing IT systems, scaling up our engagement efforts with employers and individuals as part of the Next Bound of SkillsFuture, and even moving to our new office at Paya Lebar Quarters after years at One Marina Boulevard.

At the end of 2021, I had completed my tour of duty at SSG. All these efforts — designing and realising new training and upskilling initiatives at scale and at speed in response to a crisis — had made for a hectic, exciting and memorable tenure as CE. Given the clear impetus and need for action amid the COVID-19 pandemic, SSG stepped up as a team, standing shoulder to shoulder and doing our best to bring the SkillsFuture movement to bear in supporting Singaporeans' livelihoods and enhancing their employability at a time when it was needed most. It was a profound stress-test of the SkillsFuture movement, and of those tasked with driving it. What we and our partners accomplished together helped lay the groundwork for the ongoing transformation of Singapore's workforce that continues today. ■

Notes

1. SkillsFuture is Singapore's national movement to promote the lifelong learning of skills. It is a key effort to help Singaporeans remain employable throughout their lifetimes.
2. SGUnited Skills and SGUnited Mid-Career Pathways Programme-Company Training were launched on 3 Jul 2020 and 20 Jul 2020 respectively. Both programmes ended on 31 Mar 2022.



Learning Through Crisis:

Workforce Singapore's Crucible of Fire

by Tan Choon Shian

The former Chief Executive of Workforce Singapore reflects on the agency's beginnings and the COVID-19 pandemic, drawing lessons for the SkillsFuture movement and underlining the vital importance of communication, adaptability and leadership.



Tan Choon Shian is currently Chief Executive of the Singapore Totalisator Board (Tote Board). As the first Chief Executive of Workforce Singapore (WSG) from October 2016 to June 2023, he played a pivotal role in formulating long-term strategies, catalysing innovation to help jobseekers and enterprises, and instituting necessary organisational changes to overcome immediate and long-term workforce challenges. During the COVID-19 pandemic, Choon Shian led WSG to effectively implement several key elements of the Government's response to support jobseekers and manage unemployment. This included the launch of SGUnited Traineeships and SGUnited Mid-Career Pathways Programme - Company Attachments.



The Initial Phase

In 2016, a year after the SkillsFuture movement started in 2015, the former Workforce Development Agency was split into two agencies: Workforce Singapore (WSG) and SkillsFuture Singapore (SSG). As the first CE of WSG, my first and fundamental task was to clarify the separate roles of the two new agencies.

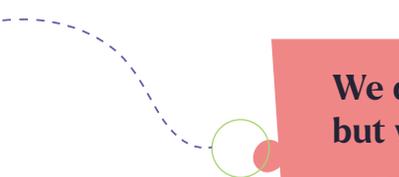
The political guidance was to ensure there were no gaps in our policy coverage, even if there might be some overlaps in responsibility. In practice, this led to some early confusion on the ground. Both businesses and individuals were unsure whether to come to WSG or go to SSG for their continuing education and training (CET) and workforce development needs.

As our agencies evolved, our relative priorities became sharper. The work of SSG, being training oriented, had a longer time frame and closer engagement with training providers and institutes of higher learning. WSG had a greater emphasis on employment, on those whose employment were at risk, and on employers with an urgent shortage of workers. Our focus was more on immediate needs. If the SkillsFuture movement looked to serve all Singaporeans in the workforce, WSG prioritised individuals who were either voluntarily changing careers or had lost their jobs.

Once we were clear about our focus at WSG, we began to build the foundation to support our work. The first piece of this foundation was a digitalisation drive.

In partnership with GovTech, we developed and launched MyCareersFuture portal,¹ which has since become a one-stop website for job application needs. Today, the portal enables jobseekers to be more aware of the skills they possess and recommends them to relevant jobs based on their current skills, work experiences and competencies. Onboarded employers can shortlist applications with closer matches and receive talent recommendations of potential candidates who are open to career opportunities and possess the relevant skills for the job. Data from the portal has helped us build up a deeper understanding of the job market, including the types and nature of jobs being advertised, salaries, and hiring success rates.

A second foundational piece was building a tighter relationship with employers, mainly through business associations, both horizontally through organisations such as the Singapore Business Federation, and along verticals, as part of our professional conversion programme (now called the Career Conversion Programme), designed to help those who wanted to switch paths



**We did not know how the crisis would evolve,
but we were certain we needed to do something.**

mid-career. We started to look at the bottlenecks in the existing programme, taking in feedback from employers and jobseekers, and scaled up the programme significantly — by orders of magnitude — to make it more user-friendly for employers to use.

Navigating the COVID-19 Pandemic

When the COVID-19 pandemic hit in early 2020, we knew that the world was in crisis. Internally, we had an understanding among our partnering agencies: including SSG and the Ministry of Manpower. We did not know how it would evolve, but we were certain we needed to do something. Our assumption was that employment would be challenged, with a deep fall in business confidence. Graduating cohorts would have trouble finding jobs. If the crisis stretched on, even employed workers would suffer. We also knew that just incentivising or persuading employers to keep jobs would not work in a severe crisis. To absorb the employment-challenged, SSG quickly ramped up training programmes.

However, unlike previous crises, many companies in Singapore had already sent their workers for ongoing training. WSG's approach was to encourage employers to take on new employees and retrain them on the job to be ready for their new roles, with the government offering financial support for these career conversions. For companies who were unable to take on new staff on a permanent basis, WSG put forward the SGUnited Traineeships

and the SGUnited Mid-Career Pathways Programme - Company Attachments.² While this risked undercutting actual employment, which is always preferable to a temporary work attachment, it was still preferable and more productive than workers not being employed at all during a crisis.

Employment opportunities in some industries, such as logistics, are contingent on the company in question winning a contract. Under the attachment scheme, a worker thus stood a chance of being absorbed into full employment if the company they were attached to won the contract; otherwise, they could also join another company in the same industry that had vacancies. WSG was nevertheless careful to design the traineeship scheme so it would be less attractive than subsidised programmes for full-time employment. It was an instrument to tide workers and employers over the COVID-19 crisis.

Because of our prior relationship with several big employers, such as Singtel and DBS, we were able to get them to come on board at the start and take on trainees to signal success and build confidence in the programme. The programme was implemented within a few weeks.

Response to the scheme was positive. While SMEs were sceptical of the traineeship scheme at first, they quickly caught on that it was a good deal and demand surged. For WSG, the new challenge was processing applications for the scheme in time, addressing complaints from both employers and

individuals seeking traineeship. By simplifying the criteria and paperwork, and making the most of MyCareersFuture as the digital platform to handle queries and applications, we were able to clear this bottleneck in a few weeks.

Towards the end of the pandemic lockdowns, another challenge emerged. SSG and WSG were tasked with advancing the SkillsFuture movement's training and careers push through a major ground publicity effort, even though there was still widespread concern about infection from COVID-19. To do this, we had to innovate new ways to conduct skills and careers fairs physically but in a relatively safe manner, all across Singapore.

We developed a more compact fair concept, which was easier to set up, and deployed digital interaction, using iPads so that members of public could interact with a career coach or career ambassador online, similar to bank video-tellers. This meant minimising the number of staff who needed to be physically on location — reducing both risk of exposure to infection and the manpower needed for our massive publicity drive. A small in-person team at each onsite location could be backed up by a remote team interacting virtually. We proliferated our messaging through standees at hawker centres, with staff wearing signage handing out leaflets at MRT stations and other sites with high footfall.

Out of pandemic-driven necessity, we embraced the digitalisation of engagement and communication: today, this has become mainstream, with broader

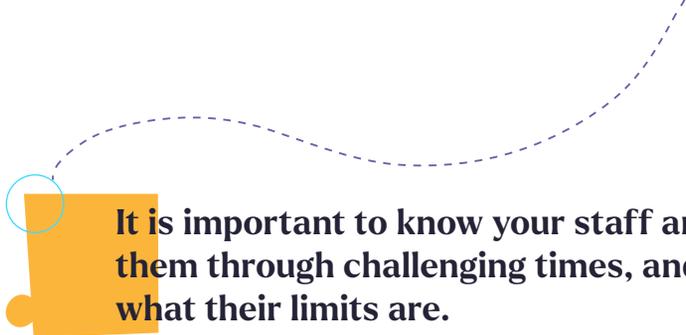
acceptance of online consultations and even job interviews. The process of having to learn by doing amid the pandemic helped WSG level up its organisational capacity. The learning moved across the organisation rapidly. Different divisions in WSG stepped into different roles they would not usually have taken on in normal times: for instance, the communications team not only handled the website but also led in-person engagement and skills and career fairs.

Through these and other various efforts, the number of jobseekers placed per year has tripled from 21,000 in 2016 to more than 68,000 in 2021.

Key Lessons: Leadership and Communication Matter

The experience of leading WSG through its early years amid an unprecedented global pandemic holds many lessons.

First, WSG was dealing with entirely new tasks and challenges, using processes that were not entirely within our control — we often depended on external partners and stakeholders, such as trainee host companies. In such cases, we cannot be sure of the right incentives or levers to elicit the desired market response. Even with a well-designed scheme, broad awareness is vital for success: it can take time to generate public interest and take-up. At different phases, there will be different pain points and expectations. For WSG, we swung from worrying about slow public



It is important to know your staff and support them through challenging times, and to know what their limits are.

response, to an overwhelming number of applications for our traineeship scheme. Knowing when to exit a policy or initiative is necessary. To be in sync with changes to the broader economy, our COVID-19-era traineeship provisions did not continue after the pandemic. As business confidence returned, we did not want government-subsidised trainee attachments to distort the job market. With better data coming in through our digital platforms, it became clearer that the most vulnerable group were mature workers above forty, for whom traineeships were less relevant. But standing down a popular scheme comes with its own difficulties, and demands effective engagement — in WSG’s case, we had to explain to many employers why we were withdrawing traineeships, which they had come to rely on.

On occasions when public impatience boiled over, we had to focus on carrying out service recovery, sorting out fundamental issues, and looking forward. This is where, as a leader, it is important to know your staff and support them through challenging times, and to know what their limits are. One critical factor at WSG was that the

team had been stable in the preceding years, and had built up trust and a good understanding of one another’s strengths and constraints. As CE, I found it beneficial to have a strong team of deputies to lean on and to devolve responsibilities to make the cognitive load and stress more manageable rather than place them all on any one person. By the same measure, having good trust with other important partners and stakeholders means key policy issues can be sorted out quickly.

It is important for leaders to find ways and means to reach out to staff. Before COVID-19, I had regular town hall meetings with staff. As we entered the pandemic lockdown, I wanted to speak to the staff to reassure everybody and to check in on everyone. There was no suitable technology for this at the time, so I used our government Facebook account as a makeshift tool to livestream to the whole WSG team. This was a very new experience at the time, but it was vital to demonstrate to our people that management wants to hear from them. It set the tone for us to work through the crisis, build trust, and grow our collective capacity for the long term. ■

Notes

1. MyCareersFuture. <https://www.mycareersfuture.gov.sg>
2. Currently known as Mid-Career Pathways Programme for Mature Mid-career Individuals.

LEAVING NO WORKER BEHIND

SKILLSFUTURE AND SINGAPORE'S LABOUR MOVEMENT

by Patrick Tay

The National Trades Union Congress (NTUC) is a core partner in the effort to transform and uplift Singapore's workforce. NTUC Assistant Secretary-General Patrick Tay assesses the labour movement's role, and what more can be done in the next bound.



Patrick Tay is the Assistant Secretary-General of NTUC and a member of NTUC's Central Committee. He oversees both NTUC Legal and Strategy. Concurrently, he is also an elected Member of Parliament for Pioneer SMC. He currently co-chairs the Tripartite Workgroup on Human Capital Development together with MOM and SNEF and the MAS Financial Sector Tripartite Committee. He is also a member of the Tripartite Workgroups for the Review of the Employment Act and Senior Employment. He also serves as Executive Secretary, United Workers of Electronics and Electrical Industries (UWEEI) and Deputy Chairperson, REACH Supervisory Panel.

A leading industrial and employment relations lawyer, he advises and represents unions as well as union leaders and members in complex and contentious disputes. He has been involved in numerous legislative changes in labour and employment laws in Singapore for the past decade.





A KEY STAKEHOLDER IN WORKFORCE TRANSFORMATION

At the heart of the labour movement in Singapore, NTUC advocates for the rights and well-being of every worker, striving to enhance their livelihoods. Beyond pushing for better wages, welfare, and job prospects for workers, NTUC strongly supports reskilling and upskilling, as training and career resilience are the best form of protection against global competition and economic disruption.

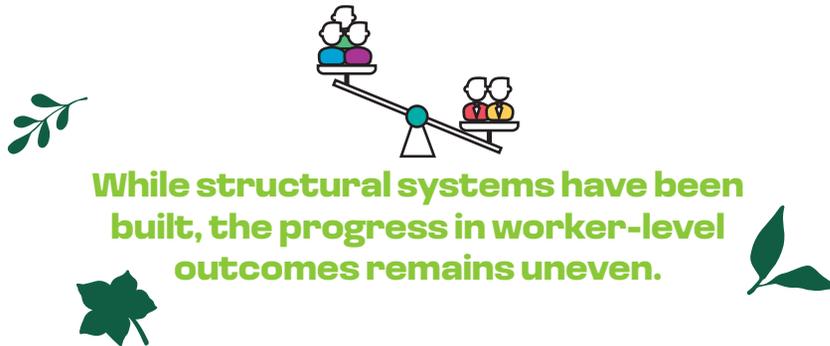
As Singapore navigates economic transformation in response to technological, demographic, and environmental shifts, the concept of a Just Transition becomes increasingly relevant.¹ This is the idea that no worker should be left behind, and any change impacting them should be managed equitably. Labour unions play a pivotal role in this process, not only by anticipating industry disruptions and advocating for fair employment terms, but also by shaping training systems to be more inclusive and responsive.

Workers perceive labour unions as essential advocates — negotiating on their behalf and working with tripartite partners to implement supportive initiatives, including upskilling

and reskilling opportunities.² Strengthening these efforts will build an economy that is both future-ready and fair.

Over the years, NTUC has been at the forefront of workforce transformation, implementing initiatives to enhance employment and employability to ensure Singapore's workforce remains resilient, especially in the face of increasing uncertainties and evolving job demands. By proactively equipping workers with future-ready skills and enabling them to seize new, higher-value opportunities, NTUC continues to ensure they remain competitive in a knowledge-driven economy.

Continuous upskilling and reskilling are essential for sustaining employability, while businesses must evolve to harness the potential of a more skilled workforce. As Singapore transitions towards a more skills-driven economy, developing Critical Core Skills (CCS) such as digital fluency, global perspective, learning agility, creative thinking, and sense making become increasingly important for workers to navigate a fast-changing global environment.³ However, developing such adaptability hinges on active collaboration among stakeholders across companies, unions, and the Government, fostering a dynamic and responsive workforce system.



While structural systems have been built, the progress in worker-level outcomes remains uneven.

From the labour movement’s perspective, Singapore’s national SkillsFuture movement has laid important groundwork in building a skills-conscious society over the past decade. There has been growing awareness among both employers and workers of the importance of continual learning.

However, while structural systems have been built, the progress in worker-level outcomes remains uneven. Some sectors and demographics — particularly professionals, managers, executives, and technicians (PMETs) and unionised workers — have benefitted from more structured pathways. Non-PMETs, especially those in fragmented industries or without strong employer support, may not have seen the same level of advancement. Sectors with a large proportion of non-PMETs —

such as manufacturing, construction, arts, entertainment, and recreation — could benefit from more tailored career and training pathways. In many sectors, upskilling remains difficult due to limited employer support, unclear training pathways, and practical barriers like time and cost.⁴ As a result, workers with the most to gain from training are often the least likely to access it.⁵ The COVID-19 pandemic further revealed how vulnerable non-PMETs are compared to their PMET counterparts.

Recognising these disparities, the labour movement plays a crucial role in advocating for policies and practices that safeguard and support affected workers and communities, and in representing their interests and shaping a more inclusive workforce strategy.

SKILLSFUTURE: NTUC'S STRATEGIC ROLE

NTUC supports training that aligns with business transformation and future industry needs through a multi-level future-skilling approach to position Singapore for sustainable and inclusive growth, at various levels.⁶

At the national level, NTUC has extended its support in co-developing the Training and Adult Education Industry Transformation Map (TAE ITM) together with tripartite partners, providing access to critical and

emerging skills by driving innovation, professionalising jobs, deepening skills, and increasing productivity.

At the employer level, NTUC's Company Training Committees (CTC) initiative aims to bring employer and worker representatives together to develop tangible, holistic transformation plans to ensure the workforce remains future-ready, relevant, and resilient. These CTCs can leverage support from the NTUC Job Security Directorate. From March 2020 to November 2024, CTC skills-based initiatives benefitted nearly 200,000 workers.

NTUC'S JOB SECURITY DIRECTORATE (JSD)

NTUC's JSD supports worker training and upgrading and business transformation for a stronger Singapore workforce. With CTCs at the heart of the ecosystem, JSD is an integrated NTUC effort with integrated elements:

NTUC's Employment and Employability Institute (e2i) is an empowering network for workers and employers seeking employment and employability solutions. Recognising that targeted interventions are needed to effectively support workers, NTUC's e2i offers a range of employment facilitation, career matching services, and training and placement programmes, including career coaching and advisory services, job redesign, business training and transformation, and Career Conversion Programmes (CCPs).

NTUC's Industry Training & Transformation (IT&T) Department supports companies in workforce training and business transformation. It identifies critical skills gaps and develops targeted training programmes. These include training companies to conduct strategic business planning using tools to determine the training and learning gaps needed to position them for the next phase of growth.

Companies can also drive business and workforce transformation by leveraging the CTC Grant and the Operation and Technology Roadmap. The CTC Grant, administered by NTUC's Employment and Employability Institute (e2i), is funded from the \$300 million set aside by the Government to scale up NTUC's CTC initiative. To help enhance business capabilities and worker outcomes, it funds up to 70 per cent of the qualifying cost for companies' transformation projects or training tied to a transformation project.

As of 31 December 2024, more than 85% of the first tranche of the CTC Grant has been committed for about 480 approved CTC Grant projects. More than 7,400 PMEs and rank-and-file workers across more than 330 companies could benefit, with an average wage increase of five percent above annual increment, structured career pathways through a Career Development Plan, and/or skills-based allowances.



At the worker level, having a job is the best form of welfare. NTUC advocates for accessible, affordable, and industry-relevant training for all workers across industries and age groups to ensure continuous career development and employability. NTUC works to overcome

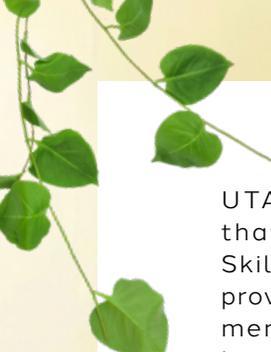
challenges in reskilling and upskilling by providing both financial support (like Union Training Assistance Programme or UTAP) and structural workforce transformation programmes (such as NTUC's e2i and LearningHub) to make these opportunities easier to access.

Using AI to aid in job-matching

NTUC e2i's AI-powered Virtual Career Coach (VCC) is a sustainable and scalable digital assistant for matching jobseekers to appropriate roles and identifying skills deficits. It supports NTUC's e2i's career advisers by consolidating job listings from national and prospective job banks, as well as skills upgrading courses, in a single location.

The VCC delivers targeted job insights by rapidly analysing resumes and RIASEC-5 profiles (a profiling tool that assists candidates in understanding their personality, strengths, and work values to better identify suitable career options). It also spots skills gaps and makes tailored recommendations of relevant upskilling courses, helping job seekers better prepare for new job opportunities.

Since its launch in August 2024, VCC has helped more than 3,000 job seekers.



UTAP is an NTUC initiative that specifically complements SkillsFuture Singapore (SSG) by providing financial support to union members to encourage lifelong learning and skills upgrading. It makes upskilling more affordable for workers, especially those from lower-income groups or those transitioning between careers. NTUC union members can claim up to 50% of unfunded course fees, capped at \$250 annually (or \$500 for eligible senior members) for SF-approved and NTUC-supported courses. This complements the use of SF Credit, reducing out-of-pocket expenses for workers seeking training.

NTUC LearningHub (LHUB), together with SSG, collaborates with academic institutions to bridge the gap between theory and practical application within the Continuing Education and Training (CET) landscape. It contributes by enhancing the curation, development, and delivery of industry-relevant training programmes and short-term attachments that align with real world demand, continually improving trainer quality and pedagogical standards to address evolving training needs. Initiatives such as the Career Agility Hub app further demonstrate this role — supporting adult educators in identifying skills gaps and receiving tailored career development guidance.

Skilling Up Hope for Inmates and Ex-Offenders

LHUB and NTUC's e2i have worked closely with Yellow Ribbon Singapore (YRSG) and the Singapore Prison Service to support the reintegration of ex-offenders into the workforce.⁷ NTUC provides one-stop pre-release training and placement, including employability workshops before job interviews, career coaching, and job matching services.

In 2007, LHUB and YRSG jointly introduced the Digital Citizenship with Coding Fundamentals programme to equip inmates and ex-offenders with essential digital literacy skills, enhancing their employability in a technology-driven labour market.

The NTUC FairPrice Foundation has also pledged substantial financial support to the Yellow Ribbon Fund to advance lifelong learning and career development initiatives for ex-offenders, extending assistance also to their families. The Foundation also contributes to aftercare partners such as The New Charis Mission, the Industrial & Services Co-Operative Society Limited (ISCOS), and the Singapore Anti-Narcotics Association (SANA), supporting programmes that directly benefit ex-offender communities.

Collectively, these initiatives reflect a broader commitment to inclusive workforce development and fostering a society where no worker is left behind.

CHALLENGES AND STRATEGIES FOR THE FUTURE

While NTUC's contributions to the SkillsFuture movement in collaboration with tripartite partners has borne some fruit, more can be done in the next bound to ensure that SkillsFuture will have a positive impact for all our workers.

First, as Institutes of Higher Learning (IHLs) evolve to become Institutes of Continuous Learning (ICLs), **distinct pedagogical approaches and tailored learning designs will be needed to more effectively engage adult learners with work experience.** Fostering a resilient and adaptable workforce calls for the adoption of andragogies that can equip workers to navigate dynamic work environments by prioritising curiosity, adaptability, and engagement with complex challenges.⁸ These frameworks could be leveraged to build learning cultures that promote proactive engagement, peer-driven knowledge exchange, and critical thinking in response to industry transformations. Both adult learners and employers also expect practical, outcome-driven education from ICLs.⁹ To ensure relevance and applicability, the labour movement can support ICLs in forging stronger ties with industry practitioners to co-develop CET, integrating practical insights and industry-specific expertise as part of their capability development framework.

Second, **the pace of business transformation is accelerating, and the half-life of skills is shortening.**¹⁰ Workers must sustain the validity and relevance of their knowledge and skills, and believe in a skills-first approach. Government institutions and the labour movement must support vulnerable segments of the workforce in their career transitions while also assisting small and medium enterprises (SMEs) as they strive to keep pace with skills development. However, Singapore's training participation rate fell to a nine-year low of 40.7 percent in 2024. This decline may partly reflect a shift in learning preferences, as more individuals — particularly those outside the labour force — appear to favour full-time education or deeper training engagements. This trend suggests a growing preference among some learners to prioritise in-depth skill development by fully committing to longer training programmes, rather than balancing training alongside active employment.¹¹

Fostering a resilient and adaptable workforce calls for andragogies prioritising curiosity, adaptability, and engagement with complex challenges.



Third, **marginalised and disadvantaged groups still face challenges having equal access to training and learning opportunities.** Despite significant national efforts to promote lifelong learning and build a future-ready, career-resilient workforce, these groups continue to face barriers to equitable access. Participation in job-related training tends to decline with increasing age and lower levels of education attainment. Singapore's older adults show lower participation rates compared to the OECD average. Our part-time employed adults are also much less likely to participate in adult learning.¹²

More mature workers often encounter difficulties engaging in training and development, due to digitalisation and new technologies in the workplace.¹³ In Singapore, a survey revealed that 57% of participants reported a decline in training opportunities with age. This trend may contribute to career stagnation among mid-career workers, whose average age is 48.¹⁴ Moreover, training resources are often prioritised for employees perceived as 'high potential', rather than those with evident skills gaps.¹⁵ This

presents a paradox: individuals already excelling in their roles are given further opportunities to improve, while those who may benefit most from upskilling are often overlooked. Individuals with prior training experience are also more likely to invest additional time and resources into future learning opportunities, compared to those who have not previously engaged in training.¹⁶ This suggests a learning inequality loop, where those who are already ahead continue to move further ahead because they are more engaged and better positioned to benefit from additional resources. Meanwhile, those who are behind may remain stuck without targeted interventions to break that cycle.

To disrupt this cycle, inclusive learning strategies must intentionally target and support first-time or hesitant learners, particularly among disadvantaged groups. This could involve increasing the recognition of skills acquired through flexible, short, and timely training. In parallel, encouraging employers to adopt a skills-based approach to hiring helps organisations tap into a more diverse talent pool of hires. Effectively implementing such inclusive strategies require more than financial incentives. Research indicates that strategies to incentivise both workers and employers in participating in training-related initiatives must extend beyond monetary rewards, as these are not always the primary barrier.^{17,18}

Fourth, **the labour movement can cultivate a multi-way mentoring**



Inclusive learning strategies must intentionally target and support first-time or hesitant learners, particularly among disadvantaged groups.

ecosystem that offers a flexible, network-based approach to support learners of diverse profiles and backgrounds across the workforce.¹⁹ Unlike traditional hierarchical mentoring models, each participant can assume a dual role as both mentor and mentee, depending on their strengths and areas of need. These peer-based exchanges facilitate knowledge transfer beyond job-specific competencies, encompassing digital literacy, career navigation, and entrepreneurial skills. By fostering reciprocal relationships, this mentorship model lowers the entry barrier to skills development and supports vulnerable groups who may otherwise lack access to formal training opportunities. NTUC's mentoring ecosystem complements structured training by embedding learning into everyday interactions, enhancing the relevance, accessibility, and uptake of continuous education across all segments of the workforce.²⁰

Fifth, **the labour force is seeing a growing proportion of mature workers, alongside a slowdown in younger workforce entrants.** Mature workers and women with caregiving responsibilities continue to face barriers such as unequal access to employment, skills gaps, and difficulties in balancing personal and professional demands. The labour movement should continue to raise awareness of caregiving responsibilities, champion the protection of mature workers' rights, and advocate for fair and age-inclusive hiring practices. Additionally, bridging the gap between skill acquisition and employment is essential for this group: incorporating internships and apprenticeships into upskilling programmes can provide hands-on experience and enhance job readiness. These efforts will enable organisations to adopt more inclusive workforce strategies and contribute to a diverse and equitable labour market.²¹

The NTUC Mentorship Ecosystem

Beyond supporting workers in training and career placement, NTUC also supports workers' need for mentorship — an essential tool for career development, particularly for fresh graduates. The NTUC Mentorship Ecosystem empowers mentees to navigate their careers and provides mentors with opportunities for personal development and to pay it forward.

Since its launch in January 2025, over 1,100 mentors have joined the NTUC Mentors Network, across three programmes: the NTUC Executive Mentorship Programme, Women Supporting Women Mentorship Programme, and the NTUC Youth Career Mentorship Programme. NTUC partners with Republic Polytechnic to develop a structured career mentoring competency framework, reinforcing consistent mentoring standards and nurturing mentoring competencies across different domains and industries.

LOOKING AHEAD

Tripartite partnerships play a crucial role in sustaining a future-ready workforce by ensuring access for workers to continuous skills development.²² In Singapore, this collaboration is centred on our CTCs. Through the vehicle of CTCs, companies and unions future-proof the workforce by monitoring industry talent demands, identifying jobs vulnerable due to digitalisation, and develop targeted training strategies.

There should be further efforts to support an increasingly multigenerational workforce, ensuring that training remains inclusive and accessible. Training solutions should also be responsive to evolving industry needs, emphasising long-

term workforce resilience over short-term upskilling efforts.²³ A resilient workforce will depend on a responsive and well-developed skills ecosystem. Strengthening collaboration with trade associations, professional bodies, and unions is essential for building a future-ready reskilling framework. Sustaining and scaling these capabilities over time will call for continued commitment.

The labour movement will continue to serve as a bridge between transformation and workforce adaptability. By driving innovative skills development initiatives and expanding collaboration across sectors, NTUC ensures that workers remain not just employable but empowered to thrive in an evolving economic landscape. ■



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NAVIGATING THE UNCHARTED FUTURE OF WORK

by Kenny Tan



Kenny Tan is Deputy Secretary (Workforce) at the Ministry of Manpower (MOM). His mission is to empower all Singaporeans to access good job opportunities and have a secure retirement. Prior to MOM, he has held various positions in the Ministry of Home Affairs, Ministry of Finance and Singapore Police Force. He currently serves on the boards of the Central Provident Fund Board, Singapore Land Authority and the Institute of Human Resource Professionals.



The Career Health SG initiative bridges lifelong learning to lifelong careers, bringing tools and services to help Singaporeans and businesses thrive, with richer labour market intelligence and a more robust career and employment services ecosystem.



Over a decade ago, both my parents retired from the same company they started their careers in. While I have spent my entire career in the Public Service, I have worked in different organisations and in diverse roles. My daughters, who are still in school, have varied career aspirations that often change from year to year. It seems unlikely they will stay in any domain, organisation or job for long.

Whether one is pursuing success, growth, balance, meaning, or all of these things, the linear career model is no longer relevant. Instead, we now have what has been called a multi-stage career model, in which careers evolve with seasons of life. Even those comfortable with where they are may find themselves involuntarily thrust into uncertain career trajectories as rapid technological advancements and global economic upheavals disrupt job stability.

Pursuing a multi-stage career is like traversing uncharted lands. You hear of wondrous sights and exciting locales, or perhaps safer havens beyond the mountains, but how do you get to these places? Some of the paths are more difficult, requiring a good amount of fitness and consistency, hiking poles for rockier treks or crampons for navigating icy ground. Without the right tools, some places are simply inaccessible.

Over the past decade, the SkillsFuture movement has been equipping Singaporeans with such tools — skillsets,

knowledge and guidance — so that they can overcome the barriers to better jobs and new careers.

SkillsFuture goes beyond helping Singaporeans to achieve their career aspirations. It also serves a vital national imperative. Rapid technological and economic changes present significant challenges for our small, open and ageing country. For our economy to stay competitive, relevant and capable of seizing new growth opportunities, we need an adaptable and resilient workforce. We need workers who are not only highly skilled, but also capable of reskilling swiftly and stepping deftly into new roles. Our future economy is like these uncharted lands — it holds promises of a brighter future for Singapore and diverse opportunities for Singaporeans, provided we can navigate it.

ARE WE ON THE RIGHT TRACK?

In well-charted lands, it is much more straightforward to get from point A to point B. The path is identifiable, and obstacles along the way are known and can be prepared for. But we are not in familiar territory. Even hardworking Singaporeans may not get very far if they are lost or caught unprepared.

Our labour market data¹ reveals concerning trends that suggest many are struggling in this new environment. Less productive sectors have increased their share of labour over the last

decade. About 20% of resident job switchers experienced a pay cut. Within several sectors, we also observe negative firm allocation effects: less productive firms gaining employment share over more productive firms. In the job market, one in seven professional, managerial, executive or technician (PMET) jobs remain unfilled for at least six months. The most oft-cited reason by employers for this is the lack of appropriate skills. These are all signs of people getting lost in unfamiliar terrain and unequipped, or wrongly equipped, to overcome the obstacles. This is a sign of unfulfilled human potential.

Despite Singapore's formidable education and adult training system, why is this still happening? Individuals may hesitate to try something different due to a fear of the unknown – whether they can adapt, succeed, and keep paying the bills. This results in a status quo bias. Employers, too, hesitate to hire unproven candidates, fearing costly mistakes. Such hesitations create significant friction in the labour market, leaving many stagnant in jobs that may not fully unleash their potential, while businesses struggle to build a future-ready workforce.

INTRODUCING CAREER HEALTH SG

To address this, Ministry of Manpower (MOM), together with Workforce Singapore (WSG) and SkillsFuture Singapore (SSG), has launched Career

Health SG, a SkillsFuture initiative. Career Health SG seeks to empower Singaporeans to take charge of and “ACE” their careers in three steps: **A**ssess your career health; **C**hart your career path; and **E**xecute your career plan. Like a compass in uncharted lands, Career Health SG aims to provide direction and clarity so that Singaporeans can better navigate their career journeys with confidence.²

Fostering a Career Health Mindset

Getting from point A to B, especially in uncharted territory, is not a single step but a journey that demands long-term planning and ongoing commitment. It is easy to put career health on the backburner when things are going well. But then if a career setback does occur, there will be more urgent things to deal with and fewer options at hand.



Education is necessary but insufficient. It is often inertia, more than information (or the lack thereof), that holds people back from making longer-term career plans. Just as a guide can help us navigate unfamiliar terrain, a career coach can help us work through our destination or career goals, develop a route for us to work our way there, and hold us accountable. WSG has introduced Polaris, a suite of career guidance programmes with personalised support by a certified career coach to help participants develop robust career development plans. The initial results are encouraging. More than 1,600 individuals have enrolled in Polaris programmes since it was first piloted in November 2023.

Scaling career guidance will not be easy. We need novel ways to make career guidance more enticing and accessible to individuals. We could try gamification approaches, such as those used in the National Steps Challenge to great effect. We must make career guidance more salient by catching individuals at the right time and right place: perhaps when they graduate from school and first enter the workforce, or when they have their first kid and are thinking about work-life balance. Career guidance could also be delivered through employers, so that its relevance to career progression is more obvious.

Developing Better Labour Market Intelligence

Once an individual has a career health mindset, it is time for action. But we can stumble over the very first step — knowing what skills are needed. Many businesses are unsure how their operations will evolve, much less the skills they will need when change comes. Some are unable to identify or articulate the skills they are seeking. Consequently, individuals lack clarity on what skills to develop and confidence that their efforts will be rewarded.

To address these significant information gaps and asymmetries, MOM and SSG launched the Careers & Skills Passport (CSP) in November 2024.³ It is a repository



of Government-verified data on every Singaporeans' education, training and employment history: in effect, a portable digital curriculum vitae. Singaporeans can send their CSP data to job portals like JobStreet and FastJobs and use the data in their applications.

On the face of it, CSP seems like a simple data verification service, akin to using SingPass to apply for credit cards. But it is more than that:

1. CSP reduces information gaps using government-verified data. This data is valuable: jobseekers who use CSP data in their applications are 40% more likely to be shortlisted than those who do not.
2. CSP gives the labour market a common language, or taxonomy, for skills. Over time, it will become easier for businesses to signal the skills they require, workers to signal the skills they possess, training providers to signal the skills they can develop, and for all parties to understand one another when discussing skills and negotiating related issues.
3. CSP as a repository can incorporate yet more sources of data. We are working with schools to ingest micro-credentials, with professional bodies to ingest certifications, with job portals to examine how the skills content of jobs is evolving, and so forth. With these, we can begin to piece together a collaborative map

of the labour market, using the information that each has to form a more complete picture.

We are quite far from this ambitious vision, but we have made a start. Since the CSP's launch, over 25,000 individuals have accessed and shared their data.

Enabling Job Mobility

Education and structured training have long been the primary channels for human capital development. However, with the half-life of skills shortening rapidly, work itself has become a significant means for learning and growth — not just via “on-the-job training” but “on-the-job doing”. A 2022 McKinsey study⁴ found that over a 30-year career, work experience accounts for almost half of human capital value, with the greatest gains coming from bold moves, i.e. job switches, where the individual lacks 30-40% of the skills required in the new role.

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This presents an opportunity to solve one of the big challenges with training: its high opportunity cost for individuals and employers, when the returns on investment are unclear.

However, most employers would not take the risk of hiring a person who lacks 30-40% of the required skills, nor do they know how to support such hires. A key piece of the solution lies in skills-first hiring: recruiting those with transferrable skills and experience instead of relying overly on qualifications or same-job experience. Verified CSP data provides actionable insights by identifying the profiles of individuals who have successfully filled similar roles across the economy. This approach allows us to highlight less obvious, under-utilised talent pools, such as candidates from adjacent sectors or occupations. Such insights can also be translated into bespoke job and training recommendations for individuals, as well as candidate suggestions for hirers on WSG's MyCareersFuture portal.

Skills and experiences are often more transferrable than one might think. For instance, during COVID-19,



many air stewards and stewardesses transitioned into healthcare roles when flights were grounded, and a good number have stayed on in patient-facing roles since. Skills such as the ability to listen, empathise, and provide appropriate care or service are valuable across both industries.

A less risky approach for employers is to look internally for adjacent talent pools. Internal talent already possesses valuable organisation-specific know-how, such as client and product knowledge. By systematically moving talent around to develop well-rounded employees (possessing “π-shaped” competencies), organisations can empower their employees to take on new roles more easily and move in tandem with business transformation.⁵

**Skills and experiences
are often more
transferrable than one
might think.**



What gets measured gets done. MOM recently launched the Singapore Opportunity Index (SOI) in partnership with the Singapore University of Social Sciences and the Burning Glass Institute (BGI), a US-based think tank.⁶ The SOI, inspired by the American and British Opportunity Indices developed by BGI, uses objective data to measure the economic opportunities that an organisation creates for its employees along the dimensions of pay competitiveness, career progression (within or beyond the organisation), gender parity, employee retention and hiring opportunities. Like the CSP, the SOI injects more information and data-driven insights into the labour market, enabling businesses to compare against their peers and learn from the best-in-class to improve their human capital management practices and competitiveness. Individuals can also better identify organisations that offer opportunities which align with their career aspirations.

Strengthening the Career and Employment Services Sector

Individuals need support to improve their career health. Businesses need support to develop their workforce to propel their business forward. In uncharted territory, no one can navigate alone. The challenge is how we can provide this support to our 2.5 million local workers and over 300,000 businesses. We need volume. We need variety to cater to different needs and circumstances.

We need velocity to match the rapid pace of change. The government is not big, innovative or fast enough to do all this on our own. Just as SSG has built up a credible ecosystem of training providers, each with its own expertise and catchment, we now need to build up the wider career & employment services sector. This diverse but fragmented sector consists of recruitment agencies, search firms, job portals, career guidance providers, HR consultants, HR technology providers, and more.

Our approach to this is to collaborate with key players in the field. Career Health SG already partners with job portals such as JobStreet and FastJobs. WSG's Polaris programmes are also delivered through its private sector partners, Ingeus and AKG.



S&G is working with HR technology providers such as JobKred on TalentTrack+ to provide employers with in-depth workforce skills analytics.

Beyond public-private partnerships, more can be done to spur the growth of the sector, drive innovation and synergies across different service providers, and improve affordability

and accessibility of good quality services and programmes for under-served segments. To this end, MOM and the Singapore National Employers Federation (SNEF) have convened the Alliance for Action on Advancing Career & Employment Services, comprising leaders from various fields in the sector. The AfA will collectively shape a vision and strategy to transform the career & employment services sector, to better meet the needs of an increasingly complex labour market.

WHAT DOES THIS MEAN FOR THE PUBLIC SERVICE?

As public officers, we also need to start taking charge of our career health. The Public Service Division has launched the Career Fitness movement — essentially Career Health SG for the public service. Each of us must actively seek out new opportunities to grow: we can sign up for a new training programme, schedule an appointment with a career coach, and even explore secondments or short-term attachments to other parts of the service.

Fellow supervisors in the Public Service have a responsibility to bring out the best in our officers. We can foster a culture of continuous learning by providing coaching and mentorship. Offer stretch opportunities to those in our teams — or to those keen to join us from elsewhere. We must encourage and support our officers in pursuing new opportunities beyond our team.



A job is more than just a means of earning a living. It is a way for us all to participate meaningfully in society and find personal fulfillment.



By doing so, we contribute directly to the strength, adaptability, and future readiness of the Public Service.

I hope that our Career Health SG journey has offered you some inspiration and food for thought. Think big, start small, and collaborate with partners to drive meaningful and impactful change.

LOOKING AHEAD

As the SkillsFuture movement enters its second decade, our vision is for career health to become as deeply ingrained in our businesses and people as the culture of lifelong learning. At the end of the day, a job is more than just a means of

earning a living. It is a way for us all to participate meaningfully in society, share in the prosperity of the nation, and find personal fulfilment.

Imagine a future where every individual possesses a career health mindset, supported by richer labour market intelligence, and a robust career and employment services ecosystem. We can craft our own paths to fulfilment and success. We can shape a future economy that translates growth into good career opportunities for Singaporeans from all walks of life, with diverse aspirations and in different life stages. We can find a bright future in these uncharted lands. ■

Notes

1. Ministry of Trade and Industry, Singapore, "Economic Survey of Singapore Third Quarter 2020," November 2020, <https://www.mti.gov.sg/Resources/Economic-Survey-of-Singapore/2020/Economic-Survey-of-Singapore-Third-Quarter-2020>. More detailed labour statistics can be found at <https://stats.mom.gov.sg/>.
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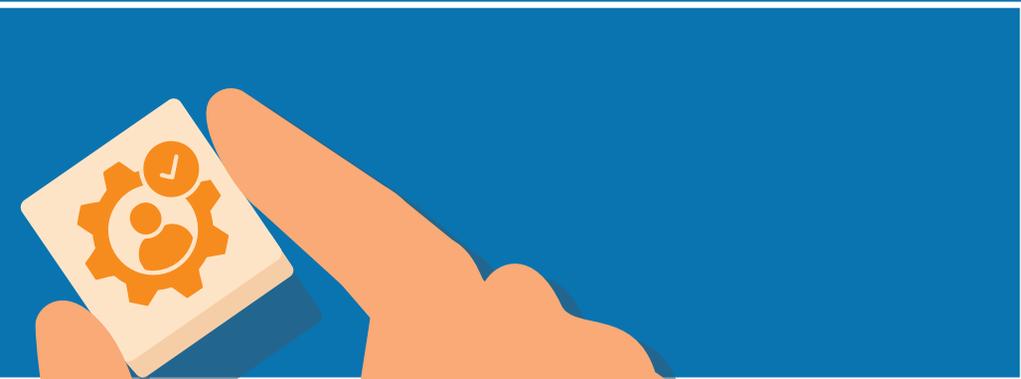


INTEGRATING WORKFORCE DEVELOPMENT WITH ENTERPRISE TRANSFORMATION

through the SkillsFuture Movement

by Dilys Boey

The Chief Executive of Workforce Singapore (WSG) highlights how enterprise and workforce transformation are two sides of the same coin, and what the agency is doing to build synergies and better outcomes for both employers and individuals in a rapidly changing job landscape.



Dilys Boey is the Chief Executive of Workforce Singapore. Prior to this, she was the Deputy Chief Executive Officer (Industry Clusters) at Enterprise Singapore. Before joining the Public Service, she spent over 25 years in management consulting with global firms Ernst & Young (EY) and Andersen. She sits on the Boards of the Singapore Food Agency, SG Enable, Employment and Employability Institute (e2i) and Skills Future Singapore. In her personal capacity, she volunteers on the Boards of the Singapore Cancer Society and the Singhealth Fund. She was also appointed to the Emerging Stronger Taskforce, a national taskforce formed at the height of the COVID pandemic to spearhead industry recovery efforts.

What is the role of WSG in the SkillsFuture movement?

SkillsFuture Singapore (SSG) and WSG work in close collaboration to lead the refreshed SkillsFuture movement to enable individuals to take ownership of their career health, and employers to invest in their employees' skills and career development, to drive business growth and transformation in a changing economic environment.

At WSG, our mission is to ensure that Singaporeans can access good job opportunities and build their careers at every stage of life. We strive to cultivate a culture of career planning, where every Singaporean is empowered to take charge of their career health. At the same time, we support employers in workforce transformation through job redesign and reskilling, enabling them to create good jobs for Singaporeans and develop an agile workforce.

Why are enterprise and workforce transformation crucial today?

Technology has been accelerating change and disruption in the economy for some time. Employers have traditionally carried out business change in phased approach: implement a new technology, train employees, observe results, then adjust job roles. However, this waterfall approach is no longer viable in today's

environment. Today, tech is implemented with agile methodologies, and process improvement and business model innovation cannot succeed without concurrently having workers acquire new skills and take on new job roles. As enterprises adopt new technologies and business models, their workforce and job roles must also develop in tandem, or risk suboptimising the benefits these advances can bring. Enterprise transformation and workforce transformation must go hand in hand.

Consider how artificial intelligence (AI) is reshaping business operations, creating both opportunities and challenges for workforce transformation. The Burning Glass Institute's report *The Expertise Upheaval*¹ analysed GenAI's impact on the career pathways of over 200 occupations and revealed a critical challenge: as AI reduces demand for entry-level positions, employers must fundamentally rethink how they build expertise that was traditionally acquired through learning on the job. Employers must redesign existing roles to focus on value-adding tasks that complement AI adoption, while concurrently developing new career pathways for professional growth for their workforce. The challenge lies in workforce planning — identifying the transferable adjacent skills that individual workers can leverage in new roles, finding alternative positions that will make use of their expertise productively, or helping them reskill to perform new tasks. While technology creates opportunities, only through redesigned jobs, alternative career pathways and strategic workforce planning, can organisations drive



Organisations no longer have the luxury of hiring skilled workers when needed, nor waiting years for educational institutions to generate the required talent.

productivity gains while ensuring their employees remain central to business transformation rather than displaced by it.

Another factor to consider is the changing workforce demographics. Although our resident labour force participation rate has increased from 63.2% in 2003 to 68.2% in 2024,² with the largest increases observed among seniors aged 65 and above, our workforce participation rate for those aged 40 to 59 still lags leading OECD countries.³ Some of these individuals may choose to shift to different roles at this stage in life, requiring employers to move beyond conventional talent strategies and rethink careers and workforce development. Employers should support older individuals seeking new ways to contribute their professional expertise while balancing work, life and personal aspirations. Workplace practices must also evolve to meet younger workers' expectations for more dynamic or multi-stage careers and meaningful integration of work with personal priorities. The challenge for businesses lies in meeting these diverse aspirations while managing a multi-generational workforce effectively.

Finally, the breakneck speed of change, Singapore's vulnerability

to geopolitical tensions and trade disputes, and stiff global competition for skills mean organisations no longer have the luxury of hiring skilled workers when needed, nor waiting years for educational institutions to generate the required talent. Instead, they must reskill their existing workforce, optimise adjacent skillsets, and encourage on-the-job learning as the business landscape evolves.

How is WSG helping employers and employees develop in tandem?

Enterprises need targeted support to navigate these complex challenges effectively. However, enterprises are not all alike. They may be at different stages of development or have different business priorities. Additionally, some may be willing to invest in their workforce as part of their business growth but lack the resources or know-how to do so effectively.

To address the critical need for a more integrated enterprise and workforce transformation, WSG is introducing an Enterprise Workforce Transformation Package (EWTP)⁴ to

Enterprise Workforce Transformation Package



Enterprise Workforce Transformation Package (EWTP)

NEW

SkillsFuture Workforce Development Grant (WDG)*

Increase accessibility to workforce development schemes

- Brings together existing Government workforce transformation schemes (e.g. WSG's Career Conversion Programmes, SSG's NACE¹ Workplace Learning Project).
- Companies can access a holistic suite of workforce development support through the Business Grants Portal (BGP) and anchor Programme Partners.

¹ NACE refers to the National Centre of Excellence for Workplace Learning

*To be progressively implemented in 2026

REDESIGNED

SkillsFuture Enterprise Credit (SFEC)*

Lower costs for workforce transformation

- Online wallet with fresh \$10,000 credit for companies with at least 3 resident employees.
- Credits can be used to offset out-of-pocket expenses for eligible workforce transformation initiatives and courses.

Enhance support for job redesign

- Expands support beyond consultancy services to include:
 - Equipping line managers and HR with job redesign and change management skills.
 - Identifying workforce solutions and technology tools.
- Eligible companies can enjoy higher funding support of up to 70%.

For more information, visit <http://go.gov.sg/ewtp>



Over \$400 million for a suite of initiatives to provide greater support for companies to embark on workforce transformation.

spur workforce and jobs transformation and strengthen its nexus with broader business transformation efforts. We want employers to think of their local workforce as an important component of business success, as they pivot their strategies to meet rapidly changing marketplace challenges. Through a single channel with holistic, end-to-end support, EWTP seeks to help employers adopt relevant workforce transformation solutions to meet both business and individual needs. These should translate into both business objectives, and better worker outcomes.

At the broader level, the Career Health SG initiative, led by MOM, WSG and SSG, encourages individuals to take ownership of their career journeys and build their career health, while working with employers to create environments and opportunities that enable such workforce growth. As skills requirements evolve faster than formal qualifications and career pivots become the norm, employers must adopt skills-first practices to expand their talent reach across attraction, hiring, development and redeployment. This approach delivers mutual value: workers can leverage their existing capabilities to access broader opportunities, while employers tap into deeper expertise and more diverse talent pools.

In essence, employers must recognise the symbiotic relationship between individual career resilience and business sustainability. By making the nexus between enterprise transformation and workforce transformation a business priority, organisations become more agile and ready for future disruptions.

Who can we work with to drive this integration?

Recognising that different sectors face unique transformation challenges, WSG has been working closely with sector agencies (SAs) to develop tailored approaches to workforce development. Our partnerships with SAs have yielded concrete outcomes, including sector-specific Jobs Transformation Maps (JTM), which examine the impact of key trends such as artificial intelligence, automation, digitalisation and sustainability on sector-specific jobs and skills. The JTMs provide recommended pathways for employers to reskill their workforce in growth job roles and redesign jobs to align with rapidly evolving industry developments. They also offer customised programmes that address industry pain points such as the Career Conversion Programmes (CCPs). However, we recognise the need to further deepen these handshakes with our counterparts. Moving forward,



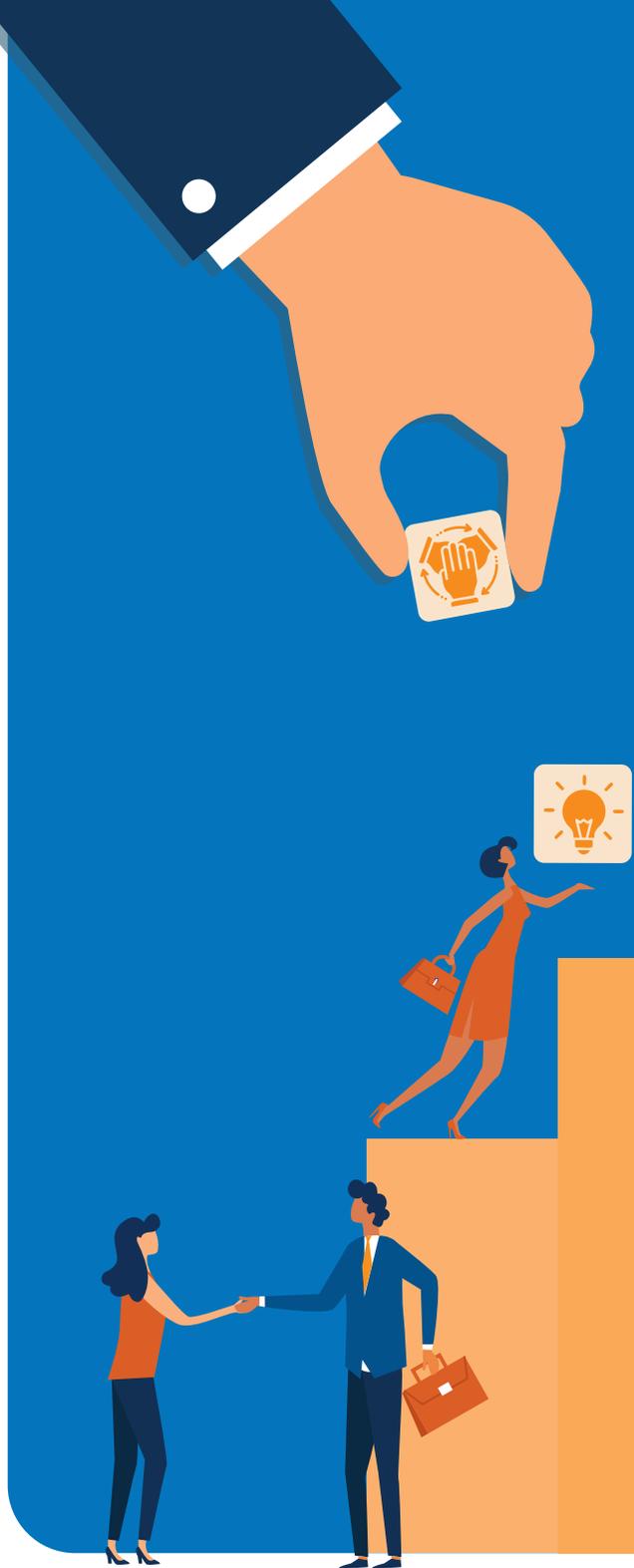
Employers must recognise the symbiotic relationship between individual career resilience and business sustainability.

we will work more closely with SAs to embed workforce transformation considerations into their sector development strategies from the onset, ensuring that business transformation and workforce development are planned and executed in tandem.

How is WSG gearing up to become more effective in supporting enterprise and workforce transformation?

To effectively deliver integrated support to employers, WSG itself must transform. In the past, WSG's primary mission was keeping Singapore's unemployment low: matching jobs with workers. Moving forward, WSG will have a stronger focus on quality employment and meaningful careers. Individuals must proactively career plan and acquire relevant skills to secure suitable good jobs, whereas employers must invest in job transformation and workforce development. Done well, this translates into good job matches and positive outcomes for both individuals and employers.

Achieving this focus requires WSG to evolve from direct service provider to a leader of the career and employment services ecosystem. While previously WSG provided career matching services





directly, we will increasingly work with industry players with the necessary reach on the ground. Our fellow public agencies can be allies, as they are embedded in their respective sectors, and have influence over the players involved.

We will work with more private sector players to enable the development of a vibrant career and employment services ecosystem, with a variety of qualified service providers working in concert to help individuals and employers identify and access relevant support. For instance, to enable more employers to engage in job redesign, we will curate capable providers who can support employers: including trainers, consultants, tech developers in the HR space, and others with relevant expertise. Employment agencies, with the right incentives, could also do more to optimise matching, be it through encouraging employers to redesign jobs or prepare jobseekers to acquire necessary job-ready skills.

Collectively, we need an urgent, shared imperative to build up a skilled local workforce, given the sweeping changes across the labour landscape. For our public service colleagues, this represents an opportunity to directly impact the economic resilience and social mobility of Singaporeans: a chance to improve lives directly and lay a foundation of opportunity for future generations of Singaporeans. ■

The Benefits of Job Redesign



WSG initiatives have catalysed and supported the transformation journeys of many enterprises in Singapore. **Mrs Bernadette Giam, Director of Corporate Affairs and Human Resources of local catering firm Creative Eateries**, shares how WSG efforts such as the Career Conversions Programme (CCP) have made a difference to their business and industry.

Job redesign has been a critical enabler in our transformation journey, allowing us to broaden our employees' scope of work and equip them with skills beyond their day-to-day roles.

For example, when we tapped on the CCP in sustainability, our employees attended courses that provided a deeper understanding of sustainability frameworks and their practical applications. This knowledge enabled the team to explore areas such as carbon management and food rescue, and their application to our food and beverage industry. They learnt to understand how consumer expectations are shifting towards sustainable practices — from sourcing and packaging to waste reduction — and how to use these insights to better tailor our offerings. Ultimately, these initiatives gave our employees the confidence and knowledge to support the company's growth in more future-ready directions.

Job redesign has delivered tangible benefits for us in several areas:

Productivity

By upskilling employees and expanding their roles, staff can now multitask and contribute across different functions. For example, giving our back-of-house staff some client-facing functions has enabled them to learn a new skillset that both empowers employees and contributes to overall team productivity.

Employee Engagement

Employees feel that their roles are evolving and their skills are being recognised. This sense of progression has fostered stronger engagement and ownership.

Retention

With better engagement and more opportunities to grow, retention rates have seen improvement compared to the years before we embarked on CCP's and job redesign initiatives.

Overall, job redesign has helped us build a more adaptable, motivated, and resilient workforce while enhancing business performance.

In strengthening employer-employee partnerships in our industry, we have also found several factors to be vital:

Industry Relevance

Initiatives need to directly address industry-specific skill gaps. For SMEs, programmes that encourage more locals to join the workforce and provide a steady talent pipeline help to alleviate manpower challenges.

Government Support

Stronger incentives and support structures are essential. Beyond manpower shortages, companies also invest significant time in developing training materials and mentoring employees in programmes like CCPs. Having sufficient support allows employers to commit meaningfully without overstretching resources.

Practical Training Design

Bite-sized WSQ courses that are modular and spread over time have been most effective. This format allows employees to absorb knowledge in manageable portions, apply what they have learned at work, and then reinforce skills in subsequent sessions.

Together, these factors nurture an ecosystem where both employers and employees can succeed in workforce development.

Notes

1. The Expertise Upheaval. <https://www.burningglassinstitute.org/research/the-expertise-upheaval>
2. According to the Ministry of Manpower's Report on Labour Force 2024
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4. EWTP is a multi-agency effort led by the Ministry of Manpower (MOM) and WSG, together with Ministry of Education (MOE), Ministry of Trade and Industry Singapore (MTI), Enterprise Singapore (EnterpriseSG), and SkillsFuture Singapore (SSG).

Realising a Lifelong Learning Nation

Global Perspectives
& Opportunities

by Matt Sigelman





Matt Sigelman is President of the Burning Glass Institute, a nonprofit data laboratory at the intersection of the future of work and the future of learning. He is also a Senior Advisor at the Harvard Project on the Workforce and a Futures Fellow at the Stanford Center on Longevity. He has been named by Forbes to its Future of Work 50 and is a member of the Council on Foreign Relations.



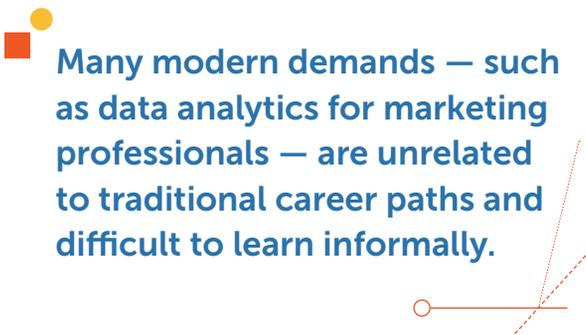
As technology and other forces fundamentally reshape what work means, we will need new ways for individuals to continually reskill through life, supported by coordinated systems that link industry needs, educational offerings, and trusted skill standards.

The New Economics of Talent in the Age of AI

Amid rapid technological disruption and growing barriers to social mobility, the need for ongoing investment in human capital has never been more urgent. With the potential of artificial intelligence to take on cognitive work, people will only be able to stay ahead of machines if they continue to refine existing strengths and develop new ones.

Indeed, the rise of AI paradoxically increases the value of human judgment. In many fields, AI is generating an upheaval in expertise. Joint research from the Burning Glass Institute and Harvard University shows that as AI takes over many entry-level tasks, the efficiencies it brings make experienced workers more valuable and less replaceable. Labour becomes more valuable as it becomes more skilled.¹

Thriving in this new reality thus calls for an economic framework centred on continually enhancing the value of human labour, to boost both individual prosperity and broader economic productivity through life.



Many modern demands — such as data analytics for marketing professionals — are unrelated to traditional career paths and difficult to learn informally.

This is at odds with how the world develops talent today. Most education systems are still geared towards the young and fail to properly support lifelong learning after an initial period of education. This mindset treats human capital as a one-time deposit — and a depreciating asset — rather than a lifelong resource to be continuously developed.

For instance, we have long assumed that workers can acquire new skills on the job, but many modern demands — such as data analytics for marketing professionals — are unrelated to traditional career paths and difficult to learn informally. Moreover, today's flexible labour markets, where employers hire and fire at will, discourage long-term investment in training.

The consequences are already apparent. A 2022 study by the Burning Glass Institute and the Boston Consulting Group found that 37% of the top skills for an average job had changed in the previous five years — before the emergence of generative AI.² Without meaningful ways to retool, mid-career workers in particular struggle to demonstrate their relevance. Each job transition — in the US, the average baby boomer has held nearly 13 jobs — is fraught with vulnerability; the risk of falling back is as real as the possibility of moving up.³

Few nations have grappled with these challenges as directly as Singapore.

Its SkillsFuture movement already recognises that the future of work demands continual, skills-based renewal across one's lifetime — an idea that has become central to its economic strategy. Yet the accelerating scale of technological change now calls for taking this vision further: moving from skills acquisition to skills orchestration. Singapore's next horizon lies in building an integrated national skills ecosystem, where education systems, employers, and government data infrastructures evolve in sync with economic transformation. In doing so, Singapore offers not just a case study, but a potential global model for how societies can turn lifelong learning into an engine of competitiveness.

Four Pillars of a Lifelong Learning Nation

We need a fundamental rethink of how we develop and sustain human capital into the future. A stronger, more responsive model must rest on four interconnected pillars: reimagining **education** for lifelong learning, establishing **credentials** that convey real value, realigning **employer** incentives to invest in talent, and building the **public infrastructure** to support transitions.

A successful national system for lifelong learning must distribute risk more evenly and better align incentives across all four dimensions, integrating these within a shared economic and workforce strategy.



1. Education

Traditional education systems often define success by degree attainment. Yet degrees no longer guarantee the career outcomes they once did. Legacy degree models — typically structured as multi-year programmes — struggle to keep pace with shifting skill demands in fast-growing sectors like green technology and data science. This creates a disconnect between higher education and the needs of the labour market. Universities that are leaders in developing advanced technologies often fail to graduate students with the skills needed to work in those same sectors.

Just as importantly, despite the urgent need for all workers to acquire new skills, education institutions have struggled to serve a learner base that extends beyond the age of 30. Workers may only need to master a few targeted skills to pivot their careers or to advance within their field, but learning remains tied to multi-year degree programmes. Courses are structured around the schedules of full-time students, and curricula often emphasise academic theory over practical application. Few opportunities exist for learners to practice new skills in the workplace.

Some institutions are beginning to address these limitations. The University of Virginia's Sands Institute has designed programmes specifically for workers whose careers have stalled — including frontline workers not typically served by elite institutions — and partners with employers to embed learning into the workplace. Delft University of Technology offers a series of “MicroMasters” programmes for professionals seeking skills in emerging high-demand sectors such as solar energy. These graduate-level courses provide credit towards a master's degree while also standing alone as professional development in fast-growing fields.

A Skills-First Workplace

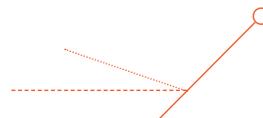
As part of its national SkillsFuture movement, Singapore is advocating a skills-first approach that better matches candidate abilities to the jobs they are tasked to do. This entails looking beyond traditional education qualifications and resumes, to evaluate a job candidate's full suite of skills. It means identifying the skills needed for a particular role and assessing the candidates' actual proficiency in the relevant skills.⁴

2. Credentials

Non-degree credentials are a compelling solution to making learning more accessible. To fulfil this purpose, credentials must serve as effective signals: they must be widely recognised and stackable, indicating a clear progression of accumulated knowledge. Too often, workers and learners lack the necessary information to determine which credentials will actually help them advance.

Globally, consistent standards and outcomes reporting for non-

 **Education institutions have struggled to serve a learner base that extends beyond the age of 30.**





degree credentials are lacking. Many credentials may appear relevant on a syllabus but fail to deliver real value in the market. Research by the Burning Glass Institute and the American Enterprise Institute found only one in eight non-degree credentials in the US results in a meaningful wage increase.⁵

New approaches are emerging to help learners make better decisions. In the US, the Credential Value Index analyses the career histories of tens of millions of workers to evaluate over 20,000 non-degree credentials based on their actual outcomes.⁶ The Index functions as a kind of “nutrition label” for credentials: it enables

workers to identify which options are likely to unlock real opportunities, helps employers assess whether a credential demonstrates true skill mastery or career readiness, and provides policymakers and educators with insight into which credentials merit investment.

Careers & Skills Passport

Singapore’s Careers & Skills Passport is a personal digital career and training repository comprising a record of an individual’s Skills, Employment, Academic Qualifications and Professional Certifications.⁷ It consolidates available verified careers and skills data from government-verified sources and functions as a career and skills planning tool to support individual professional development and growth.

3. Employers

Viewed across the span of an entire career, investment in human capital makes sound financial sense. However, high attrition rates — especially in roles where employees often stay less than a year — make employers hesitant. Their return on training investments may not materialise before the employee leaves. This leads many employers to focus on what economists call a



“free rider” problem: why invest in training if the benefits may accrue to a competitor?

Yet data suggest this concern may be overstated. The American Opportunity Index, developed by the Burning Glass Institute in partnership with Harvard Business School’s Project on Managing the Future of Work and the Schultz Family Foundation, finds that US companies excelling in internal promotion and training have retention rates 1.6 times higher than their peers.⁸ The Index also finds a strong link between promotion and retention: employees are far more likely to stay when they see a clear path to advancement.

Several barriers continue to hinder greater employer investment in talent.

Many companies lack forward-looking workforce strategies that anticipate future needs, leaving little time to train existing workers once skills gaps become evident. Even when such plans do exist, they are seldom communicated clearly to employees, who are often left unaware of where opportunities are likely to lie or the training required to pursue them. Small- and mid-sized employers in particular often lack the resources to offer training at all.

Addressing this misalignment of time, cost, risk, and capacity requires structural solutions. New financing models and partnerships can help distribute risk more equitably among employers, workers, training providers, and public institutions. For

 **Many companies lack forward-looking workforce strategies that anticipate future needs, leaving little time to train existing workers once skills gaps become evident.**



example, a value-added tax credit — tied to wage increases, even if the employee moves on — could offset training costs and be funded through corresponding growth in income tax revenue. In addition, “market makers” could help reduce risk for both workers and employers by aggregating demand and supply and offering clearer labour market signals. Staffing firms, tertiary education institutions, and public agencies are all well-positioned to take on this intermediary role.

The Information Advantage

A better understanding of the economic landscape, as well as trends in their respective sectors, supports employers make better decisions, include on transforming their businesses and investing in their workforce.

Singapore produces an annual *Skills Demand for the Future Economy Report*,⁹ offering insights into local skills demand and growth, upskilling and reskilling, and the overall economy outlook. It also publishes *SkillsFuture Jobs-Skills Insights*, a publication that spotlights high-tempo jobs and skills changes within specific sectors.¹⁰

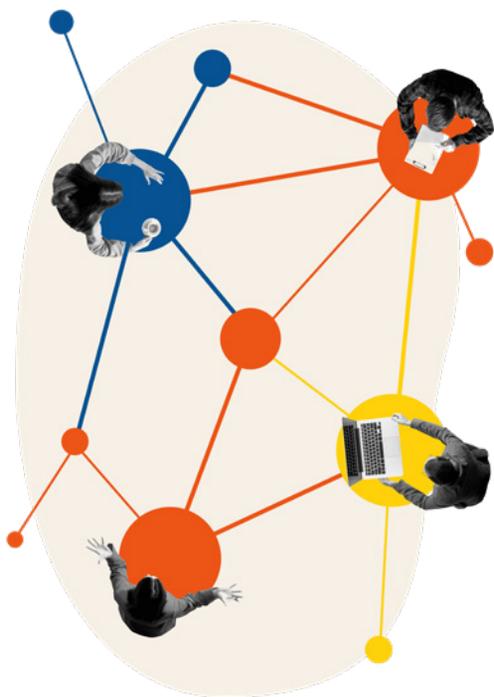
4. Public infrastructure

While employers, training providers, and workers each play a critical role, building a nation’s human capital base also requires substantial public infrastructure. Beyond funding education and training, government investment is essential for identifying labour market trends, developing career pathways, and guiding workers to new learning opportunities. These depend on foundational functions that government is uniquely positioned to provide: including forecasting, standard-setting, and definitions.

Closing gaps between skill supply and demand requires detailed, up-to-date information about labour market changes. This information must be granular and timely, offering insight into trends affecting specific roles, sectors, and skills — including how emerging technologies, like AI, are reshaping job requirements. Unlike the work of most national statistics bureaus — which focus primarily on collecting data — these insights must be designed to support real-world decision-making for a wide range of stakeholders. In many countries and multinational organisations, labour market observatories have arisen to produce more of such actionable data.¹¹ Private-sector providers of real-time labour market data are also playing a growing role, though their output may need significant modelling and interpretation to become useful for the broader public.

Efficient labour markets benefit from a shared language for skills and jobs. Currently, job titles often vary across employers, with the same title referring to entirely different roles, or different titles describing the same one. Meanwhile, education institutions describe learning outcomes in terms

that may not align with the skill requirements of employers. This lack of standardisation impedes collaboration across stakeholders — educators, employers, and workers — and leaves all of them without a clear sense for labour market needs or the talent available to meet them.



Efficient labour markets benefit from a shared language for skills and jobs.

To address this need, the Burning Glass Institute is leading a coalition of a dozen major US companies — including Google, Walmart, Bank of America, Microsoft, Verizon, PepsiCo, and Johnson & Johnson — to define common role profiles for key occupations. The aim is to provide clearer signals: helping educators understand which skills to teach and enabling employers to assess which skills candidates bring. With such a framework in place, a worker’s career history itself can serve as a meaningful form of assessment, offering insight into the skills they have likely acquired and their level of proficiency.

Singapore’s own investments in a national jobs-skills architecture position it as a global model in scaling such efforts. Through its Jobs-Skills Portal, Singapore is building a shared skills language at the level of an entire economy, turning what many companies attempt individually into a coordinated national capability. This integration underscores how a well-structured data infrastructure can knit together employers, educators, and policymakers around a common understanding of skills demand and supply.

Jobs-Skills Portal

Singapore's Job-Skills Portal is a one-stop platform offering jobs-skills datasets, insights, dashboards and algorithms to support individuals, enterprises, career development professionals, training partners, and agencies to make informed decisions on jobs and skills development within the Singapore economy.¹² It hosts a growing repository of information and tools, serving users with of different jobs-skill data needs.¹³

Taken together, these initiatives illustrate the architecture of a lifelong learning nation — an idea now reaching its fullest expression in Singapore's emerging leadership on skills.

Extending Singapore's Global Leadership on Skills

Singapore's approach to workforce development exemplifies the global transition toward a lifelong learning economy. The nation is already recognised as a global leader in helping workers adapt to change. The country's pioneering SkillsFuture Credit scheme has become an international model, shifting the economics of upskilling and reskilling by reducing the financial burden on individuals.

But what lies ahead, and what further investments are needed? Singapore has two significant opportunities to deepen its leadership in workforce development.

Unlocking Opportunity Through Upskilling and Reskilling

The benefits of improved **public infrastructure** and validated **credentials** can be put more directly in the hands of workers. Ultimately, individuals must guide themselves through career transitions; to do so effectively, they need something akin to a Waze app for their careers — a tool that maps routes to advancement, identifies learning opportunities, and helps them avoid dead ends.

This challenge centres on both information and motivation. Workers often worry, understandably, that if they invest in upskilling, they may still end up unemployed or underemployed. Addressing such fears requires several key components:

- **Clear career pathways.** Workers need to see how their careers can progress, including possible advancements from their current roles, transitions to other fields, and the specific skills required for each step. A good example is Cyberseek.org, a US initiative that offers interactive maps of cybersecurity career paths, showing demand, salaries, and qualifications.



When employers and training providers work together from the start, training pathways can be mapped directly to emerging industry needs.



- **Learning options linked to pathways.** Workers must be able to identify not only where they want to go but how they can get there. SSG already provides a strong foundation for this work, which could be further enhanced with greater investment.
- **Evidence of real value.** Learning opportunities should come with transparent data about their real-world outcomes. In the US, the Credential Value Index cited above and the US Department of Education's College Scorecard offer insights into graduate earnings. Greater data transparency and personalised guidance can help learners choose programmes that deliver measurable economic impact.

Aligning Economic, Talent, and Education Strategies

There should be closer links between the **education** system, the strategic needs of **employers**, and **national economic planning**. Singapore has ambitious targets for economic growth, both broadly and within priority sectors. Achieving those goals will require a skilled workforce — people who can develop, deploy, and maximise new technologies. Planning



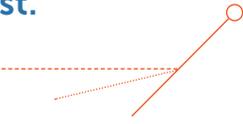
for that future workforce involves more than scaling today's roles. As industries evolve, job functions are often redefined: old tasks are phased out, and new ones take precedence. A forward-looking economic development strategy must be supported by a data-informed talent strategy.

One way to make this alignment tangible is through a **sector skills compact** — a collaborative framework in which employers, industry bodies, and training providers, including Institutes of Higher Learning (IHLs), jointly design the programmes and curricula needed in a specific sector. This builds naturally on Singapore's longstanding social compact and extends its Industry Transformation Maps (ITMs) — sector-specific roadmaps for developing globally competitive business ecosystems and deepening human capital — into fully fledged human capital plans. When employers and training providers work together from the start, training pathways can be mapped directly to emerging industry needs, making them faster to implement and more relevant.

Countries such as Sweden, Denmark, and Japan have long used sector-based skills councils or industry-led training compacts to align education with employer needs. These models have been effective in sectors like manufacturing, health care, and the trades, though results in rapidly evolving industries have been more mixed. Singapore could pilot these



Consistent competency standards must be established and verified through publicly funded assessments. These provide quality assurance and build trust.



compacts in priority industries — such as advanced manufacturing, green energy, and financial services — where global competition for talent is intensifying.

For such a model to succeed, consistent competency standards must be established and verified through publicly funded assessments. These provide quality assurance and build trust: reassuring employers and employees alike that credentials genuinely reflect capability, that training investments yield measurable returns, and that the labour market is structured to reward skill development. Without this foundation, even the most ambitious workforce initiatives risk falling short.

Employers also have a role to play beyond recruitment. By identifying emerging skill gaps early and defining internal advancement pathways, they can contribute to a sustainable talent pipeline that aligns national economic priorities with individual career mobility.



Education institutions, in turn, must adapt curricula to reflect sector-specific needs, while also equipping students with transferable skills to navigate change. When economic, talent, and education strategies work in concert — anchored by sector skills compacts and underpinned by trusted standards — Singapore can position itself to lead in both competitiveness and workforce resilience.

Conclusion

The portent of AI disruption and the changing demands of a dynamic labour market elevate lifelong learning from social benefit to national imperative. As technology transforms the workplace and alters the nature of expertise, the value of human capital lies not in static knowledge but in the capacity to grow and evolve. We need systems that allow people to refine their skills, pivot to new roles, and contribute at higher levels over time. This transformation will demand coordinated investment across education, the private sector, and public institutions. It cannot be left to workers or employers alone: government plays a crucial role in setting standards, guiding transitions, and ensuring that opportunity is broadly accessible.

A clear next step is to anchor this alignment through Sector Skills Compacts — collaborative frameworks that bring employers, industry bodies, and training providers together to co-

design the learning pathways each sector needs. Such compacts would extend Singapore's Industry Transformation Maps into comprehensive human capital roadmaps, ensuring that workforce development keeps pace with economic priorities. Consistent competency standards, verified through publicly

funded assessments, will provide further assurance that the labour market is functioning well and rewards investment in skills development. In doing so, Singapore can ensure that economic mobility and national competitiveness continue to live up to the promise set in the nation's founding. ■

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OPINION



NURTURING THE CONTINUING EDUCATION AND TRAINING ECOSYSTEM

by Renee Tan

For the national skills movement to be greater than the sum of its parts, efforts need to be more inclusive, collaborative, and creative.



Associate Professor Renee Tan is Assistant Executive Director and Director of the Research Division at the Institute for Adult Learning (IAL), an autonomous Institute at the Singapore University of Social Sciences. She leads IAL's applied and innovative research efforts to further develop practice and pedagogies in lifelong learning and Continuing Education and Training, deepen sustainable workforce performance and inform policies and work-learn practices.

THE CONTINUING EDUCATION AND TRAINING (CET) ECOSYSTEM

Commemorating ten years of the SkillsFuture movement in May 2025, Prime Minister Lawrence Wong highlighted that Singapore is at the global forefront of attempting to nurture and embed a national culture of lifelong learning and continuous growth. The engine of this effort is described as a “complex ecosystem” of “institutions, partners and stakeholders”, with PM Wong emphasising that this drive is not the purview of any one ministry, but is instead a whole-of-society, national movement.¹

In business and innovation studies, an ecosystem refers to a set of interdependent actors (firms, users, institutions, intermediaries) whose interactions and resource flows co-create value beyond what any single actor could produce alone.² The mesh of players in an ecosystem benefits from sharing capabilities and complementarities, from innovation through collaboration, and from a greater range and depth of learning and policy influences.³

Singapore’s CET ecosystem comprises the government agencies (especially

its sibling lead agencies SkillsFuture Singapore and Workforce Singapore), the Institutes of Higher Learning (IHLs), training providers in the private sector, adult educators and trainers, employers, trade associations, and the labour movement as represented by the National Trades Union Congress (NTUC). The learners themselves, synonymous with the workforce, are both players and beneficiaries within the ecosystem.

While the vision of a national skills ecosystem forging ahead as one is persuasive, it is less clear whether all the key players today recognise and embrace the roles they need to play for this approach to yield meaningful outcomes for all. We might ask: Are win-win arrangements open to the entire CET ecosystem? Does each player group view other players, including market competitors, not as antagonists but as possible partners with which to combine strengths for even greater impact?

We may have room to do better at harnessing and deepening our ecosystem advantages. Conversely, if uneven development in an ecosystem were allowed to persist, it could be detrimental to the whole, with the weakest link holding back the pace at which a sector develops.

THE ADULT LEARNING COLLABORATORY

The Adult Learning Collaboratory (ALC) was launched by SUSS-IAL in August 2024. Supported by SkillsFuture Singapore (SSG),¹ the ALC aims to foster collective innovation to tackle wicked problems in and associated with adult learning, drawing on insights from IAL's research. The ALC takes an ecosystem approach: stakeholders comprising enterprises, researchers, training providers, learners, adult education professionals and more come together to undertake use-driven co-creation, with every partner jointly invested and working collaboratively to reap benefits for all.

Through innovations based on research insights, the ALC anchors the co-creation process with experimentation and testing to ensure real-world and use-driven relevance, as reflected in the merging of the terms 'collaboration' and 'laboratory'. The ALC is currently focused on three projects:

AI CAPABILITIES FOR A MULTI-GENERATIONAL WORKFORCE

As AI tools become ever more sophisticated, it is not enough to equip the workforce with basic AI literacy and fluency. Employers are indicating that AI skills need to be accompanied by the ability to contextualise its use for each particular job, and to go beyond standard AI-generated solutions for work tasks. The ALC is thus putting forward pedagogies in AI capability development initiatives and programmes which look to build creator abilities with AI for the non-technical community. An ecosystem approach ensures that workforce capabilities with technology are developed with each stakeholder group's needs in mind.

NEW-AGE BUSINESS TRANSFORMATION

Our research shows that a people-first business transformation approach would benefit small and medium enterprises (SMEs) in particular. An easy-to-administer diagnostic tool offering incisive, actionable recommendations for SMEs seeking stronger performance is showing promise in tests, giving business owners a new lens to undertake business transformation. The ecosystem co-change methodology in testing now has potential to bring together SMEs, consultants and researchers on this journey.

FUTURE-ORIENTED PEDAGOGIES

Current modes of teaching and learning are not particularly well suited to nurturing learners comfortable with dealing with the complex and the emergent at work. The ALC's experimentation methodologies are testing ALC-created techniques across a range of organisation, enterprise and institution types to engender this future orientation, and these efforts are starting to show signs of changing pedagogical practices in the learning space. Many are starting to shift from the mindset of learning as acquisition to that of learning as a means of knowledge-building. This will need more time to be embedded as a key habit at work.

With continued experimentation and resulting data analysis, the ALC continues to work towards forging stronger collective change across ecosystem groups to deepen the belief that the realisation of and coming together on common ground and space will lead to more sustainable and impactful benefit to all players.

Note

1. Institute for Adult Learning, "Adult Learning Collaboratory." <https://www.ial.edu.sg/about-ial/our-centres/adult-learning-collaboratory-alc>

NOT JUST COORDINATION BUT COLLABORATION

To better nurture the ecosystem, we may have to ask ourselves how to both coordinate and collaborate better across the CET ecosystem. To date, the overall lead and primary coordinators of the movement has been the government. They have done well in co-opting and marshalling the other ecosystem players as much as possible through inventive, relevant and generous schemes and policies.

However, it is not yet a fully level playing field. For instance, while more than 24,000 employers (about 22,800 from SMEs) have sent their workers to SkillsFuture-supported programmes,⁴ they constitute only about 7% of the 354,000 SMEs that account for the bulk of enterprises in Singapore.⁵ Inroads with SMEs have been made, such as with its SkillsFuture Queen Bee initiative of a community of enterprises supporting one another.⁶ Many SMEs do

also incorporate workplace learning programmes and in-house initiatives for their workforce. But more can be done to bring these employers on board.

Might there, for instance, be ways to organically replicate SkillsFuture Queen Bee arrangements and benefits, were a public agency such as Enterprise Singapore to act as an ecosystem coordinator to drive synergies across sectors and enterprises? When there is conscious coordination across a sector, all players could come together to assess its skills stock and levels, build towards thoughtful job designs and allow for more workers to use and grow complex skills to benefit the entire sector. SMEs in particular could benefit from such arrangements as they are buoyed by the sector coming together rather than an anointed queen bee who focuses only on their immediate supply chain partners, for example. Information flow for SkillsFuture messaging could also be enhanced to better reach and persuade a wider and more inclusive spread of employers and enterprises.

“Different learning providers have few opportunities to overlap or meet, with collaboration being a rare occurrence and active competition among them being the norm.”

Behaviour in an ecosystem, and ultimately its long-term health, is affected by the rules of engagement and the nature of standards and interfaces — open versus closed; imposed versus emergent.⁷ This is where there is a meaningful difference between coordination and collaboration. While we are adept at coordinating large segments of the skills ecosystem to work together in an organised way, we do not yet see many true instances of deep collaboration, where different players work organically together to achieve something more than they otherwise could by themselves.

For example, what if the IHLs, private sector training providers and corporate training entities, as well as their cadre of trainers and educators, were to come together to create better quality learning? Today, these different learning providers have few opportunities to overlap or meet, with collaboration being a rare occurrence and active competition among them being the norm. How might we create conditions where they could instead collaborate — for mutual benefit, as well as for the good of the ecosystem as a whole?



THE PLACE OF PRIVATE SECTOR LEARNING PROVIDERS IN THE CET ECOSYSTEM

Although private sector providers might be expected to be entrepreneurial enough to thrive on their own in the learning marketplace, there are benefits to nurturing and involving them as part of a broader national effort.

An Institute for Adult Learning (IAL) study on the Training and Adult Education (TAE) landscape⁹ shows that private sector providers, particularly those of small and medium-large sizes, move more regularly into new markets, more frequently take risks, and are more readily adopting new technology — compared with their public sector counterparts such as IHLs. Case studies in the research also suggest private sector training providers are a key source of dynamism and innovation in the TAE space — an important aspect of the skills ecosystem.⁹

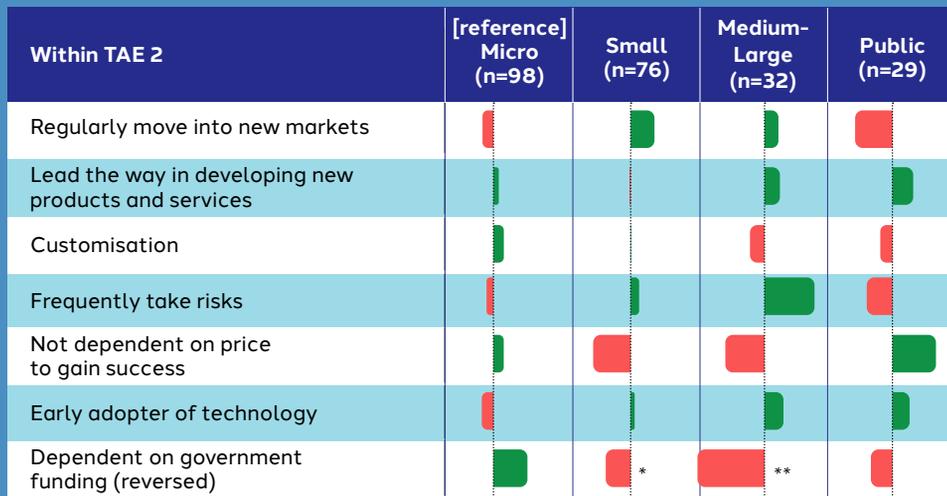


Figure 1. Comparison of Business Strategies across Different Provider Types in the Training and Adult Education Sector¹⁰

Private sector providers may furthermore play an outsized role in Singapore’s economy if they have moved into business consultancy work, where they are in a position to help companies integrate learning, jobs and skills within the flow of work — in effect setting the tone and tenor for the rest to emulate.

Whilst IHLs will always have a specialised place in particular industries, private sector training providers have a distinct industrial impact and reach. How then can we meaningfully nurture all entities to enhance the skills ecosystem as a whole?

“ We need to find further ways for all players, especially those from the broader private sector, to be more meaningfully engaged and included in sector and ecosystem developments. ”

One instance where we do see some measure of holistic collaborative effort is in the recent push for Career Health, which reached out simultaneously to employers, enterprises and individuals alike. The initiative was spearheaded by the lead public agencies, SkillsFuture Singapore and Workforce Singapore, with other key players such as the Institute for Human Resource Professionals and the Employability and Employment Institute.

This is not to say greater public sector intervention is the only way to go. Instead, we need to find further ways for all players, especially those from the broader private sector, to be more meaningfully engaged and included in sector and ecosystem developments. When the ground is more level, the likelihood of collaboration, where the aspiration is for the whole to be greater than the sum of its parts, can be fulfilled.

Another important group of stakeholders to consider is the learners: the purpose

for the ecosystem's existence in the first place. From the start, the SkillsFuture movement has placed significant emphasis on easing access to learning and growth opportunities. There has been promising growth in learner participation: in 2024 alone, 555,000 individuals took on SkillsFuture-supported programmes, a 6% increase from the previous year.¹¹

Nevertheless, there may be segments of learners who have yet to come on board. These may include gig workers and freelancers who lack industry or organisational support to guide them to appropriate learning activities and provisions. A sizeable proportion of Singaporean adults may also lack the basic literacy, numeracy and adaptive skills to keep up with the current or future demands of a rapidly changing marketplace¹² — they may be unable, rather than unwilling, to skill up enough. Addressing such gaps — together with the learners themselves — would be vital to strengthening the CET ecosystem.

THREE STRATEGIES FOR A HEALTHIER CET ECOSYSTEM

Activating Singapore's skills ecosystem more effectively, incorporating both coordination and collaboration efforts, remains a challenging task — but it is vital to achieve the movement's broader outcomes. This may involve a number of strategies going forward:

Recognise the diversity, scale and spread of the CET ecosystem

The more ready we are to leverage on the organic opportunities that this multi-faceted ecosystem, with its many complementarities, can bring us, the better we can ensure value capture for the ecosystem, its players and the workforce who are the beneficiaries. To do so, we must seek deliberately to be more inclusive and consultative, beyond our traditional comfort zones. We must clarify connections between learning, work and progress. And we must embrace the understanding that everyone has to contribute to the ecosystem, in order to achieve more together through intentional collaboration and the integration of resources, efforts and initiatives.

Ensure that players fully understand their relative roles and value in the ecosystem

This involves both multi-party communication approaches as well as targeted outreach with particular branches of the ecosystem to fully prepare them to play their roles. For example, we may want to engage IHLs and private sector training providers together, so that each can do what they do best — while they all do better by being aware of what each other is doing. The ecosystem must be kept informed about the different key nodes of the SkillsFuture web of activities and each player's role in it: from the groups who will function as first responders in skills gap recognition and delivery, to those who will ensure that the skills are meaningfully deployed in the workplace where they are needed. The ecosystem can then work out how best to engender more organic ecosystem autonomy towards mutual benefit and shared goals.

Lead by focusing on each player group while also holding the rest of the ecosystem in mind

Complementarities can be best exploited if this dual attention is paid both to the specific players involved



and to the ecosystem as a whole. Enterprises may be the right target for initiatives that leverage learning in the flow of work, but because they are such a diverse group, it may help to heighten their awareness of prevailing trends and the broader ecosystem.

How then do we acknowledge the complex intermesh of ecosystem players who range from the large to the small, from enterprises to providers and

from educators to learners? We may need to engage with each ecosystem player group at a deeper level, through deliberate user profiling for example, to capture each user group's particular needs. With such data and understandings, strategic plan-making across the whole ecosystem could then be nuanced and communicated via ecosystem-wide narratives. Complexity is then welcomed and embraced: rather than dodged or deconstructed

for the ease of managing each group separately, which could lead to silos that defeat ecosystem benefits.

CONCLUSION

The CET ecosystem built up and cultivated over the last decade and more has reached a certain level of maturity and value that is yielding benefits for Singapore.

Public service agencies could better steward the CET ecosystem by honing their coordination and collaboration

efforts across the various agencies and ministries. This would entail each agency going beyond its particular mission to converge on the larger CET ecosystem vision for Singapore. There would also need to be nimbleness and agility within such efforts to take on emergent situations should economic headwinds and turbulence dictate the need for rapid pivoting. With deep understanding and nurturing of the ecosystem and more organic and inclusive approaches in place, the CET ecosystem across the next decade could reap even more benefits for Singapore. ■

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OPINION



Building a Skills-First Society

by Gog Soon Joo

Singapore's Chief Skills Officer argues we need a fundamental rethinking of human capital and how to realise its full potential for the future.



Dr Gog Soon Joo is Chief Skills Officer of SkillsFuture Singapore, the national skills authority focusing on future-skilling Singapore's workforce. She is a Fellow at the Singapore University of Social Sciences – Institute for Adult Learning, where she spearheads Skills-First projects. With over two decades of expertise in workforce development, lifelong learning system transformation, and skills policies, she has been pivotal in the transformation of Singapore's continuing education and training system. She serves as a council member at the World Economic Forum Global Future Council for Human Capital Development, and as advisor to various university research advisory boards. Her research focuses on examining the institutional dynamics of skills ecosystems, exploring skills-powered organisations, and investigating the longevity economy.

Singapore's Whole-of-Nation Pursuit of Human Capital Development

The fundamental difference in Singapore's policy position towards upskilling and reskilling lies in our commitment to our people. As a small country, people are our only resource, so we invest in our people from their formative years through tertiary education and beyond. This approach is unique because whilst many societies front-load their educational investment in the early years, or focus training resources on those with fewer means or who are unemployed, we make a continual investment in every Singaporean throughout their lives.

Building the Foundation to Move from a Skills-Based to a Skills-First Society

Singapore's workforce development journey has always been about staying ahead by equipping our people with the skills and competencies needed to drive productivity, growth, and competitiveness.

In the early 2000s, we began articulating skills requirements at the sectoral level through initiatives like the National Skills Recognition System (NSRS) and Workforce Skills Qualifications (WSQ), our first foray into skills-based credentialing. During the first ten years of the SkillsFuture movement, SkillsFuture Singapore (SSG) partnered

with tripartite partners in developing sectoral skills frameworks as part of the Industry Transformation Maps. We had the foresight to couple talent and skills needs with industry transformations.

An important foundational element of the sectoral skills framework was clarifying what kinds of jobs and skills we need for the sectors and the Singapore economy, and how they are changing — the development and regular updating of sectoral skills frameworks is used to shape Continuing Education and Training (CET) design and delivery.

Skills as a Common Language

Building on the thirty-eight sectoral skills frameworks, SSG has developed a comprehensive national jobs-skills intelligence engine, which is powered by big data, advanced analytics, and algorithms. Today, we have a common taxonomy of jobs-tasks-skills that allows us to adopt a data-driven understanding of how jobs, tasks, and skills are evolving, and where new opportunities emerge.

In early 2025, SSG launched the Job-Skills Portal with the aim of democratising job skills data, insights, and dashboards. Anyone can now use this data, which is updated on a quarterly basis: for planning or comparison purposes, to aid decision-making, or to build their own apps. Individuals and enterprises are using the dashboards and insights to make informed decisions on skills

development requirements. Education and training institutions are using the data for course planning. So are career development professionals — they use the insights and dashboards to guide their clients who are exploring career choices. Sector agencies are using the data and SSG-developed algorithms for sectoral talent and skills planning.

For the first time, we have a dynamic system enabling individuals, enterprises, professional bodies, trade associations and chambers, the labour movement, as well as educators, to speak the same skills language — making decisions with clarity, agility, and foresight.

The Urgency of Our Times

The need for this shift to skills first has never been more pressing. Between 2019 and 2024, every job in Singapore experienced changes in skills requirements, with 43% seeing major shifts in tasks performed. This reflects the profound transformation underway as businesses evolve their models and talent strategies.

Our demographic realities compound this urgency. Individuals will need to remain economically active for longer, often navigating multiple careers. Lifelong skills renewal has become essential, not optional. With digital tools, artificial intelligence, and automation reshaping work at an unprecedented pace, qualifications alone will no longer suffice. It is skills being current, demonstrable,

and transferable that will determine employability and competitiveness.

Skills-First Practices: Opportunities for Collective Action

Internationally, momentum is building. LinkedIn has become a skills-based marketplace connecting talent with employers. Coursera and Pluralsight highlight in-demand skills and recommend relevant courses. Major technology firms are hiring based on competencies, not just degrees. The World Economic Forum, together with PwC, has published framework to accelerate skills-first adoption. The message is consistent: in our fast-changing world, skills-first practices are essential to unlocking talent and opportunity.

Skills-first practices refer to a strategic approach for both enterprises and individuals.



For enterprises, skills-first practices can be adopted in talent management, hiring, and workforce development that prioritise a person's specific skills and competencies over traditional credentials like degrees, job titles, or work experience.



For individuals, skills-first practices are about taking charge of one's productive assets, career planning, and skills development.

To support Singapore's move towards a Skills-First society, the Centre for Skills-First Practices (CSFP) at the SUSS Institute for Adult Learning was set up to help build capacity and mindshare across Singapore's skills ecosystem. It helps develop analytical methods that provide insights into skills demand, supply, gaps, and solutions, and champions collective efforts, both globally and in Singapore, to optimise human capital development and the effective use of skills.

Among CSFP's key initiatives are its Skills-First Working Papers and roundtables series,¹ designed to catalyse dialogue, surface fresh perspectives, and encourage the co-creation of practical solutions:

Paper 1: "Skills-First: Are We There Yet?" investigates structural inefficiencies that hinder systemic change towards a skills-first economy and attempts to identify the critical questions that key stakeholders — individuals, employers, and policymakers — need to examine closely. The paper calls for deeper reflection and joint action to enable skills to function not as a peripheral consideration, but as a central organising principle for inclusive and responsive labour markets.

Paper 2: "Skills-first: What Does It Mean for Me?" focuses on individual agency by delving into the potential barriers that hinder individuals from managing their career planning and upskilling. The paper further calls for

an individual-centric career paradigm to redefine success in education and work, and highlights crucial questions to be addressed from an individual's perspective.

Paper 3: "Skills-First: What Does It Mean for My Organisation?" examines how employers understand and engage with skills-first practices in real-world conditions. It supports employers in kickstarting their own journey towards a skills-first organisation that enables greater performance and resilience by sharing ideas from the ongoing experimental practices of forward-leaning employers.

CSFP and the OECD have also developed and published the world's first Skills-First Readiness and Adoption Index.² The index provides a multi-dimensional view of readiness and adoption across 30 OECD member states and Singapore. The index provides comparative analysis for the participating economies to review their skills-first practices.

Reducing Friction for a Skills-First Future

There are several challenges that we will need to overcome in order to fully realise our vision for a skills-first Singapore.

First is the issue of signalling. A skills-first approach does not mean traditional qualifications are redundant. Qualifications are in fact a form of

signalling: individuals who have earned qualifications have certain abilities and a base set of skills that can be assumed. The issue is that certification is often subject-based and does not clarify the skills that are involved in earning the qualifications they bear. To address this, SSG has implemented a skills extraction algorithm for all courses we fund, which will automatically tag training programmes with the skills they will inculcate, subject to the training provider's or educators' review. This will help ease the transition process so that anyone who goes through these courses can be expected to have the associated skills.

A thornier issue arises when there is signalling failure, such as when an employer does not know or cannot articulate what skills their business will need, and so cannot activate training to develop the right skills for their workforce in good time. This is a challenge particularly faced by small and medium enterprises (SMEs) with limited resources. To assist them, we are piloting a job skills profiling tool for 1,400 SMEs, with a drag-and-drop interface to help them quickly associate a job role in their business with related skills. We are also looking into ways to help employers verify the skills individuals declare in a workplace setting. After a pilot trial, TalentTrack/TalentTrack+,³ a subscription-based skills profiling tool, was introduced to SMEs in August 2025.



Individuals face signalling difficulties when they are not able to articulate the value of their capabilities.

On the other hand, individuals face signalling difficulties when they are not able to articulate the value of their capabilities. They may have significant skills not reflected in their qualifications or job experience. Over the years, SSG has continually enhanced the Careers & Skills Passport, which is an employment and skills registry. The Careers & Skills Passport hosts verified skills of individuals. An upskilling recommender linked to the Careers & Skills Passport is available to support skills development decision-making.

A second challenge is that of risk asymmetry. Many employers today are reluctant to invest in training their staff only to have them leave before the business recoups a return on their investment. In turn, individuals may be reluctant to go for extensive training when the expected outcome is unclear. How then can we help both employers and employees change their mindsets to see the gains from investing in training more quickly and

As a multigenerational workforce and significant employer, the Public Service can set the tone in supporting individual officers taking ownership of their own productive assets



explicitly, perhaps by more directly relating training to application in the workplace? The Centre for Skills-First Practices is currently prototyping a work redesign solution to help businesses leverage skills and work redesign to evaluate the new skills requirements for their employees.

A Vision of a Skills-First Future

Skills-first practice is needed to support our whole-of-nation SkillsFuture movement. Over the next five years, we will expand these efforts. Our vision is for Singapore to become the most progressive economy in applying skills-first practices, where both enterprises and citizens reap the benefits.

We envisage a Singapore where individuals have career self-planning

capabilities and can chart personal growth pathways and effectively demonstrate their competencies at work, rather than leaving career decisions solely to employers.

Where employers adopt skills as a core business strategy, maintaining clear sight of their organisational capabilities and aligning skills needs with business goals, rather than leaving skills out of business decision-making. Where education and training institutions deliberately shape learners' competencies, focusing on employment outcomes and the practical application of knowledge and skills at work.

These new behaviours require our entire ecosystem to embrace skills-first practices. During recent roundtable discussions, participants identified four key groups as movers and shakers in realising this vision: business leaders, human resources professionals, career coaches, and adult educators.

Encouragingly, Singapore Business Federation and Singapore National Employers Federation are leading skills-first adoption among their members. The Institute of Human Resource Professionals has launched new programmes equipping members with capabilities to implement these practices. Career development professionals are stepping forward to use jobs-skills resources to support their clients.

Now is the Time to Act

S&S is developing enabling capabilities and platforms, supported by technology, to support this shift in perspective for both employers and individuals and help them make better decisions for the present and the future.

The cultural change we seek is a long-term effort. We must build the tribes — the stakeholders and tripartite partners — that can help sustain this effort in the coming years. These will include those in the labour movement, institutes of higher learning, training providers, and the career coaching community. We will need first movers and firestarters among our SMEs to show the way and grow enough in numbers to be able to multiply impact. We should engage with employment agencies because they have a direct influence on recruitment behaviours and need to also adopt the language and mindset of a skills-first approach. Such efforts will need to take place one individual, one company, and one organisation at a time, until the mindset takes root.

The Public Service also has an important role to play. As a multigenerational workforce and significant employer, it can set the tone in supporting individual

officers taking ownership of their own productive assets, giving them time and space to tend to their own interests and skills needs, and to realise what it is they want for themselves. The HR community within the Public Service can also contribute by helping to clarify what skill stocks they have. Leaders can encourage their staff to set aside time to use the career skills passport to document and verify their skills, role-modelling this self-reflective behaviour for other organisations. Our workplaces can also generate authentic innovation opportunities for staff to participate in and to develop new ways of doing things.

Singapore is already a Blue Zone for longevity in the world. If Singapore succeeds in developing a culture where each of us is empowered to take charge and take care of our career health — and indeed, our lifelong skills health — we may become the first Blue Zone for skills in the world. This will mean that regardless of the rapid changes the world is undergoing, we will not be anxious but instead have confidence that we can learn, grow, and adapt, managing our own best productive assets whilst supported by a strong and capable ecosystem. We have made a promising head start towards this future. ■

Notes

1. Institute for Adult Learning. "Skills-First Papers." <https://www.ial.edu.sg/resources/publications/skills-first-publications/skills-first-papers>
2. Institute for Adult Learning. "Skills-First Readiness Adoption Index." <https://www.ial.edu.sg/resources/publications/skills-first-publications/skills-first-readiness-adoption-index%E2%80%8B>
3. SkillsFuture Singapore. "TalentTrack." <https://skillsfuture.gobusiness.gov.sg/support-and-programmes/talenttrack>

How AI is Transforming Continuing Education and Training

by Chang Sau Sheong

AI is transforming how we work — and how we learn at work. GovTech Singapore's Chief Technology Officer and Deputy Chief Executive argues that using AI to level up workplace learning isn't optional: it is key to helping public officers stay competitive, effective and engaged.



Chang Sau Sheong is Chief Technology Officer and Deputy Chief Executive (Products) of the Government Technology Agency of Singapore (GovTech Singapore) where he oversees Product and Technology. A veteran software engineer, he had served in leadership roles in various organisations prior to joining GovTech Singapore, from Singapore Power to PayPal and Yahoo, and was the co-founder of a tech start-up.





Introduction

Continuing Education and Training (CET) needs to evolve just as quickly as the workplaces it serves. We cannot have learning stuck in the past while everything else races forward. To stay relevant and useful, CET needs to grow and adapt right alongside the changes happening in our work environments.

The good news is that Artificial Intelligence (AI) is opening up exciting new possibilities for how we learn and grow professionally. We are moving away from old-school, one-size-fits-all training sessions towards something much more personal and practical. Instead of waiting weeks for a scheduled training or sitting through courses that do not quite fit your needs, you can now get learning support tailored specifically to you, exactly when you need it most.

Think about the traditional training model with its fixed content and standardised tests: it simply does not match how we actually work. People need learning that integrates seamlessly into their daily tasks, not something that pulls them away from their real work. This is where AI really shines. It can create context-relevant learning experiences that are flexible, responsive, and genuinely useful in your day-to-day job.

There are four key ways AI and emerging technologies are transforming CET.

1. Augmented Instructional Content

Creating learning materials used to be quite a challenge. Instructional designers would spend weeks or even months developing a single course from scratch. The results were often inconsistent in quality, expensive to update, and difficult to scale up to meet different needs.

AI is completely changing this picture. Today's Large Language Models like ChatGPT, Claude, and Gemini can generate relevant learning materials in minutes rather than weeks. Whether you need a coding tutorial, a troubleshooting guide, or a workplace simulation, AI can help create these resources quickly and effectively. Online learning provider Coursera, for instance, is now using AI to automatically generate transcripts, quizzes, and course summaries.

Video content is getting a major upgrade as well. Tools like Synthesia allow you to create professional videos featuring realistic avatars and multilingual voiceovers. This makes learning more engaging and opens doors for learners around the world, regardless of their language.

AI can even keep your learning materials fresh and current. In rapidly changing fields like cybersecurity and cloud technologies, AI can spot when content needs updating and either suggest changes or make them automatically. This frees up instructional designers to focus on what they do best, which is creating engaging learning experiences and understanding learner needs, while AI handles the heavy lifting of content production.

2. Adaptive, Real-Time Assessment

Traditional assessments — those periodic tests and end-of-course exams we all know and many dread — only give us a snapshot of learning. They are not great at showing where someone is struggling, or how to help them improve.

AI-powered assessments bring a smarter approach to the table. Platforms like HackerRank, Codility, and DevSkiller adjust task difficulty based on how each learner performs. They can score submissions instantly, check for plagiarism, and create realistic work scenarios, such as debugging challenges or scripting tasks.



People need learning that integrates seamlessly into their daily tasks, not something that pulls them away from their real work.

Some platforms take this even further. Microsoft Learn includes live Azure environments where learners receive feedback while they work. The system not only points out mistakes: it shows you how to fix them and learn from them.

All these shifts mean assessments are not just tests anymore. They become an integral part of your learning journey, offering timely, personalised feedback that keeps you motivated while building skills you will actually use at work.

3. Personalised Learning Pathways

Traditional training often follows a predictable pattern by starting with broad concepts, then gradually getting more specific. For many learners, this approach makes it hard to see how the training connects to their actual job needs.

AI eliminates this disconnect. Learning platforms like Degreed and Skillsoft Percipio now recommend content based on your specific job role, current skills, and the gaps you need to fill. Tools like Cornerstone go a step further by suggesting future career paths based on your progress and interests. This makes it much easier to plan and track your professional growth over time.

The result is that learning does not have to be a scheduled event anymore. It happens naturally as part of your work. When you need a quick explanation of a policy or help debugging a script, AI tools like ChatGPT can provide answers right when you need them.

Learning becomes an ongoing process that is customised to your goals, delivering the right support at exactly the right moment.

4. Conversational Learning

Traditional online learning can feel pretty static. You read something, watch a video, maybe take a quiz, and that's about it. There is limited interaction and not much help when you get stuck.

This is changing dramatically. AI is bringing a natural, conversational style to learning. AI tutors on platforms like AWS Skill Builder or GitHub Copilot

Assessments are not just tests anymore. They become an integral part of your learning journey, offering timely, personalised feedback that keeps you motivated while building skills you will actually use at work.





guide learners through tasks, offering helpful hints and suggestions as you work.

Virtual labs represent another exciting development. Platforms like Cloud Academy and A Cloud Guru use AI to create realistic work scenarios. You can practice setting up cloud environments or responding to security incidents in a safe space. When you hit a roadblock, tools like ChatGPT or Claude are there to help. They can clarify instructions, provide examples, or adjust the difficulty to match your comfort level.

This approach makes learning more interactive, more personal, and significantly more effective, especially for those who learn best through hands-on experience.

Adapting to the Future

It is natural to feel some uncertainty about the impact of AI on jobs. After all, machines are increasingly handling tasks like content generation, data analysis, and workflow automation. But the real story is not about AI replacing people. It is about people and AI working together to achieve better results.

When we use AI thoughtfully, it takes over repetitive tasks and creates space for more strategic and creative work.

Public officers need to understand how algorithms influence decisions, even if they are not coding themselves.



The real opportunity lies in redesigning roles, developing new skills, and building strong collaboration between humans and machines.

Consider healthcare as an example. AI excels at analysing vast amounts of data to spot trends or identify risks. But we still need human professionals to interpret that data with consideration for ethics, culture, and context. In software development, AI might draft basic code, but engineers focus on the bigger picture of design decisions and user experience.

When we combine human and AI strengths, we achieve results neither could accomplish alone. This new work environment calls for what experts term “fusion skills”. These include technical knowledge, certainly, but also the ability to work effectively with AI tools, think critically about data, and understand broader implications.

Public officers need to understand how algorithms influence decisions, even if they are not coding themselves. Engineers must consider the social and ethical impacts of their creations. Training programmes must now focus on building these blended skillsets, helping people become not just AI users,

but informed collaborators who can leverage AI effectively.

As AI takes on more decision-making roles, from sorting job applications to handling citizen queries, understanding how it works becomes crucial. CET must include both the technical skills to use AI and the knowledge to question and evaluate it appropriately.

Concepts like explainable AI, fairness, and accountability should be woven into every learning programme. This approach builds trust, encourages responsible use, and ensures technology benefits everyone equally.

Evolving Lifelong Learning in the Public Service

Lifelong learning has become essential for a modern, effective Public Service. In Singapore, we are already seeing how AI tools help public officers work more efficiently.

Pair provides a secure, in-house version of ChatGPT for officers to get instant support. **AlBots** enable officers to create and share chatbots powered by their agency’s knowledge. **Transcribe**

converts speech to text in real time, simplifying meeting documentation and insight extraction. **SmartCompose** helps draft clear, effective messages for citizens quickly.

Supporting these tools are structured learning efforts. The AI Practice at GovTech Singapore runs workshops across agencies, produces practical playbooks, and collaborates with the Civil Service College and GovTech Singapore's Digital Academy to offer AI-focused learning. These programmes go beyond tool usage. They build awareness of ethics, governance, and long-term strategic thinking.

Technology will continue advancing, but our response to it will determine its real-world impact.

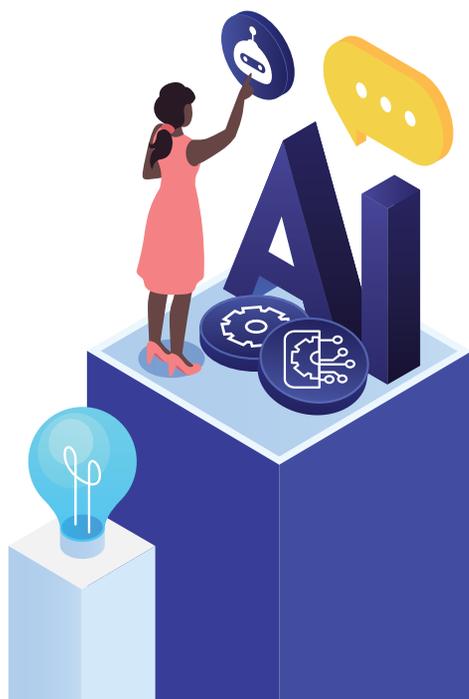
In the Public Service, AI has tremendous potential to improve policy development,

service delivery, and citizen engagement. Across other industries, it can drive innovation and bring more human-centred approaches to how we build and operate systems.

For CET, the goal extends beyond simply adopting new technology. We need to reimagine learning itself. We must create environments where people can continuously grow their skills, apply them immediately, and learn in ways that feel both relevant and empowering.

AI is not here as our replacement, but as our partner: helping us learn, think, and work more effectively than ever before.

As we shape the future of work, let us ensure we are also shaping the future of learning. Together, people and AI can grow stronger, creating a future where technology enhances rather than replaces human potential. ■



We must create environments where people can continuously grow their skills, apply them immediately, and learn in ways that feel both relevant and empowering.



42SG

Transforming Learning for an Emerging Future

by Koh Chye Soon and Priscilla Pang

In today's world, where the digital realm is as tangible as the physical, the ability to thrive in both is no longer a luxury — it is a necessity. A radical new model of education reimagines learning as project-driven, self-directed, community-based, and human-centred.



Koh Chye Soon is Head of 42 Singapore at the Singapore University of Technology and Design (SUTD) and Deputy Director of SUTD Academy. With over 20 years of experience in both private and public education, he has been instrumental in founding educational institutions from the ground up, both locally and internationally. He holds a Bachelor's Degree in Electrical Engineering from the National University of Singapore and a Master's Degree in Education from the National Institute of Education.

Priscilla Pang is Programme Manager, 42 Singapore.

This article was produced with ChatGPT and other artificial intelligence (AI) tools as collaborators. The authors contributed the core ideas, drafts, strategic framing, insights, and the key voices, while AI supported creative articulation.



Asking the Right Questions

The number **42** was made famous by Douglas Adams' *Hitchhiker's Guide to the Galaxy* series, as the ultimate answer to "Life, the Universe, and Everything", as computed by the alien supercomputer Deep Thought. The plot twist is that nobody knows what question it is the answer to. Beyond the humour of Adams' fiction, 42 embodies a deeper truth: *answers are meaningless without the right questions.*

This insight aligns with the core of computational thinking: defining the problem is often harder than designing the solution. Real-world problems rarely come neatly packaged, and it is often difficult to pinpoint what the core question or problem statement is. For developers, 42 is a playful reminder that **context matters**. Similarly, in AI and data science, models can output precise predictions, but without framing the right context and question, precision is meaningless.

Today, technologies such as AI are evolving faster than education programmes can adapt, potentially leaving graduates with knowledge and skills that can quickly become obsolete. In response, alternative models of education have begun to emerge, offering new approaches to continuous learning that are more agile, timely, flexible than traditional, more rigid educational structures. One such alternative model is the school 42.

42 is a global, tuition-free software "IT" school founded in Paris in 2013. It offers a teacher-less, class-less learning environment focused entirely on peer-to-peer collaboration and project-based learning in a gamified environment. Its mission is to democratise access to high-quality tech education and produce adaptable, job-ready software engineers who thrive in fast-changing digital environments. 42's unique educational model has been adopted by a global network of more than 50 tuition-free coding schools in over 30 countries: the 42 network.

In 2021, the Singapore University of Technology and Design (SUTD) signed a Memorandum of Understanding with 42 to bring its innovative approach to Singapore. In 2023, SUTD's 42 Singapore (42SG) joined the global 42 network, offering a unique coding education programme aligned with the pedagogical principles shared by SUTD and 42, including an emphasis on human-centred education, peer learning, and project-based learning.

1. Zero Tuition Fees

Supported by SkillsFuture Singapore and a donor group of individuals and enterprises, the 42SG programme is completely tuition-fee free. This removes a major barrier to entry, especially for those from lower-income backgrounds or those hesitant to invest in expensive bootcamps or degrees.

2. Teacher-less, Class-less, Peer-to-Peer learning

Students learn by doing in the 42SG programme. There are no lectures, no teachers, and no handholding. Students learn to solve problems via peer-learning pedagogy. Instead of professors delivering lectures, students learn by sharing with each other, collaborate, debate, and build solutions together. While this can be daunting for those used to structured environments, removing the teacher empowers learners to take ownership of their own progression. Learning is no longer just a one-way transfer from teacher to student but becomes a community goal that the student groups pursue together. This environment helps build communication skills, empathy, and teamwork: essential qualities in the modern workplace.

Students learn by sharing with each other, collaborate, debate, and build solutions together... This helps build communication skills, empathy, and teamwork: essential qualities in the modern workplace.

“A significant aspect of the programme was the collaboration between different members...As we had very different working styles, we had to try to change our working styles to adapt and accommodate one another.”

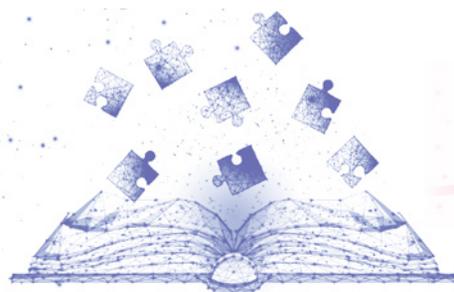
- **Jeffrey Goh**, 35, one of the fastest in the world to complete the 42SG core curriculum.

“The peer-learning approach exposed me to different ways of thinking from seeing the work of others. Some of my best learnings had come from observing skilled peers approach and solve problems.”

- **Jeremy Choo**, Valedictorian of the inaugural cohort of 42SG.

3. Inclusivity and Open Access

Anyone aged 18 and above can apply for 42SG, regardless of his or her academic background. This open access model democratises tech education and removes barriers for career switchers, self-taught coders, and those who may have been left behind by traditional education systems. By valuing diverse backgrounds, learning styles, and perspectives, 42SG fosters an inclusive community where everyone has the chance to succeed, regardless of

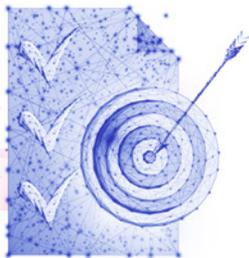


prior education or experience — including those who might otherwise be excluded from the tech industry.

4. Gamified Approach and Self-Paced Curriculum

Progress is tracked as students complete and validate activities, much like in a video game. Students “level up” by completing increasingly complex challenges, which keeps motivation high and mirrors the iterative nature of software development. Admission into the programme is based on completing an online game that is both fun and challenging, along with performance during a month-long immersion programme known as the “Piscine”, in which participants are evaluated on their persistence, problem-solving ability, and collaboration skills.

Recognising that education should not be one-size-fits-all, 42SG’s learning journey is self-paced: fast learners accelerate; others take their time. This personalisation



As a culture of ‘failing forward’ takes root, it reshapes behaviours and fosters real transformation.

reflects real-world diversity in learning speeds. Gamification addresses the different levels of motivation and ability in students while igniting the passion of ‘self-learning’ in all of them.

“The same passion that brought me to the Piscine continues to drive me. I want to stay committed to self learning and spend my evenings polishing my technical skills.”

- **Clyde Ow**, who is in his late 30s and majored in psychology at university but later moved to IT project management.

5. Project-Based Learning

Learning at 42SG is derived by completing projects. From day one, students dive into challenges that simulate the types of problems professional software developers face. Learners are encouraged to try, make mistakes, iterate, and learn by doing, just like in the real working world. They are empowered to actively construct knowledge rather than just passively absorb it. This nurtures creativity, resilience, and problem-solving skills.

Learning through failure empowers students to embrace uncertainty, build confidence, and develop a resilient, growth-oriented mindset. As a culture of ‘failing forward’ takes root across the community, it reshapes behaviours and fosters real transformation. Project-based learning also helps students build industry-ready portfolios: bridging the gap between school and the workplace.

“42SG gave me the confidence to break into a new industry by building a strong foundation in software development. It trained me to think like an engineer again, but this time in code...The experience also instilled the discipline and resourcefulness needed to thrive in a self-directed learning environment skills that directly translate to success in tech.”

- **Aaron Teow**, who pivoted to a tech role after completing the 42SG core curriculum in 14 months.

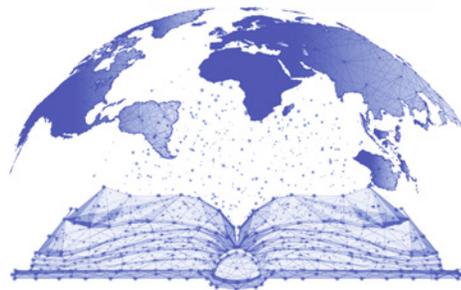
6. 24/7 Campus

The 42SG campus is always open, allowing students to learn at their own pace. This flexibility is especially valuable for working adults, those with caregiving responsibilities, or those who prefer working at different hours.

7. Global Network

As part of the 42 network, 42SG students can collaborate with peers from over 50 campuses worldwide. This global exposure enhances learning and could potentially bring access to international career opportunities.

Since September 2023, 42SG has welcomed three diverse cohorts of 426 learners, with students aged 18 to 60 from varied educational, professional, and cultural backgrounds — including locals and internationals from 13 countries. Over half are employed full-time, while the other half are between



Diversity of age, experience, and culture fosters openmindedness, deeper communication, and real-world teamwork.

jobs or exploring new paths, each bringing unique perspectives that enrich the community. There has also been a good mix of learners with different education levels, from those with secondary school education to pre-tertiary graduates and postgraduates.

Learning goes beyond coding: it is also about empathy, collaboration, and growth. The diversity of age, experience, and culture at 42SG fosters open-mindedness, deeper communication, and real-world teamwork. The 42SG programme does not just teach tech — it embraces individuals from all walks of life to intentionally build a human-centred, inclusive future, where many learn to thrive in the digital age.



42SG: Realising Singapore's Future

Singapore has long championed digital transformation. Initiatives such as Smart Nation, SkillsFuture, and the Digital Economy Framework for Action underscore the importance of tech talent. The 42SG programme aligns perfectly with these goals, with relevance reaching beyond tech into education and social outcomes.

Supporting Lifelong Learning

With strong support from SkillsFuture Singapore, 42SG welcomes learners of all ages, enabling career transitions and upskilling. This supports Singapore's vision of a resilient, adaptable workforce.

Inclusivity

By removing financial and academic barriers, 42SG promotes equity and inclusion. This is crucial in a meritocratic society that values opportunity for all.

Filling Talent Gaps

Singapore's economy is increasingly driven by digital innovation. As AI, automation, and cybersecurity reshape industries, the need for adaptable tech talent has never been greater. 42SG offers specialisations in high-demand areas, helping to fill the talent gap with agile, job-ready professionals in key fields such as Software Engineering, Web Development, Cybersecurity, Artificial Intelligence, Mobile Development and Game Development.

Driving Innovation

An emphasis on creativity, collaboration, and problem-solving nurtures the kind of thinkers who can drive innovation in startups, corporates, and government agencies.

Enhancing Competitiveness

Talent attracts talent, and global competitiveness is forged through shared innovation. As part of the global 42 network, 42SG offers students a gateway to international exposure and collaboration, broadening horizons and strengthening Singapore's position in the talent economy.

At 42SG's inaugural graduation in May 2025, then Minister of State for Education and Manpower, Gan Siow Huang praised the programme as an "innovative and skills-based offering for learners." She commended the resilience of all 18 diverse graduates, from mid-career switchers to fresh school leavers, and shared the inspiring journey of

Valedictorian Jeremy, a former electrical technician who found his passion for coding at 42SG and earned a spot in Google's Skills Ignition traineeship.

Minister Gan also underscored the growing importance of soft skills like communication, collaboration, and creative problem-solving.



Not everyone thrives when given total freedom from the start; some may need more structured transitions to build confidence and independence.



The Challenge of Changing Education

More than just a computer programming school, 42SG is a bold response to the future of work — empowering individuals, challenging convention, and teaching learners not just to code, but to adapt, lead, and thrive in a world of constant change.

However, pursuing a fundamentally new approach to education and skills development is not without its challenges. The 42SG approach continues to face hurdles in different areas.

Conventional Education, Structures, Expectations and Norms

Education in Singapore, as with many Asian societies, is shaped by rigorous academics, structure, and teacher-led instruction. The radical 42SG model has sparked mixed reactions, including scepticism. In many Asian cultures, teachers are more than educators:

they are mentors, authority figures, and trusted guides. Removing this guiding figure can be unsettling. For some, the lack of spoon-feeding and handholding can be disorienting. For others, it is liberating and empowering, offering an opportunity to unlearn, adapt, and grow in ways traditional systems rarely allow.

Peer-to-Peer, Self-Paced Learning

Peer-to-peer, self-paced learning at 42SG demands strong intrinsic motivation and self-discipline — qualities not all students are equally prepared with. Traditional education often relies on external motivators like grades, exams, and teachers to keep learners on track. At 42SG, these are intentionally removed or re-invented. This is intended to develop grit, but it also leads to early dropouts: a trend seen both in Singapore and globally across 42 campuses.

The self-paced model is both empowering and demanding — a double-edged sword that tests not just skills, but resilience.

Many students struggle in the first months as they adjust to the full autonomy in learning 42SG demands. Not everyone thrives when given total freedom from the start; some may need more structured transitions to build confidence and independence. Furthermore, while students can progress at their own pace, this very flexibility also creates disparity within the community. Like a marathon, the gap between participants widens, and learners gradually drift apart: those who fall behind may feel isolated, increasing the risk of dropping out.

Securing Internships and Jobs

The 42SG programme also faces challenges in gaining recognition from employers and helping its students secure jobs, due to:

- **An Unconventional Learning Model:**

With no teachers, classes, or textbooks, 42SG's peer-to-peer, project-based approach is unfamiliar to many employers. This leads to misunderstanding of the skill sets acquired and scepticism about the depth and rigour of its training.

- **Low employer Awareness and Trust:**

As a relatively new entrant in Singapore's education landscape, 42SG must work to build credibility and demonstrate that its graduates possess industry-relevant skills.

- **Competition for Real-World Jobs:** Non-traditional candidates find it challenging to stand out unless they bring highly specialised or in-demand skills.

- **Difficulty in Assessing Soft Skills:**

Employers often struggle to evaluate soft skills—like communication and adaptability — which are critical in tech roles but not always evident from project portfolios alone. 42 develops and assesses soft skills within the programme. The 42 network will be incorporating metrics to measure these soft skills.

Despite these hurdles, success stories such as Jeremy, demonstrate that the model can work in Singapore. Encouragingly, a growing number of enterprises are partnering 42SG. Among them is foodpanda, which has already hired some 42SG students.

The challenge for 42SG is to scale up these successes and deepen employer engagement. To this end, 42SG actively invites enterprises to collaborate by offering opportunities such as hackathon projects and internships for our students.



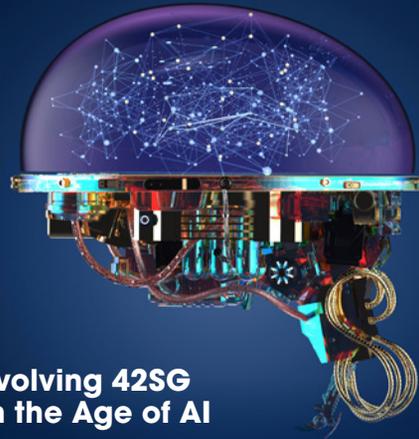
Creating the Future Together

Based on 42SG's philosophy of learning, here are three anchor principles for the future:

1. The Future Is Now: AI is no longer a distant promise but a present reality. The challenge is not to prepare for AI someday, but to engage with it today — responsibly, critically, and creatively.

2. Human–AI Symbiosis: The narrative is not about machines replacing people, but about forging a new partnership. AI amplifies human potential by handling scale, speed, and complexity, while humans bring judgment, empathy, and ethical reasoning. The future of learning lies in integration: systems where humans and AI complement each other rather than compete.

3. Collaboration for Lifelong Learning and Innovation: No single institution, company, or government can address the skills challenge alone. Lifelong learning and innovation should be built on open frameworks, shared innovations, and collective responsibility across society. This means institutions like 42SG, employers, educators, policymakers, and learners themselves must co-create ecosystems that enable continuous growth and reinvention. The nature of lifelong learning is already changing. The deeper question is whether we are ready to shape its direction together, ensuring it is inclusive, ethical, and human-centred.



Evolving 42SG in the Age of AI

42 nurtures skills. AI offers augmentation. Design brings it all together, ensuring innovation is human-centred.

Since its founding, SUTD has always had human-centred design at its core. It recently made bold strides in its Design•AI initiative — reflecting its commitment to shaping a future where AI enhances human creativity, ethics, and innovation. Since January 2025, it officially pivoted to become the world's first Design•AI university, integrating AI deeply into its curriculum, research, and enterprise efforts. For example, SUTD's expanded curriculum ensures all students are grounded in Design•AI alongside other major/minor offerings.

Housed and supported by SUTD, 42SG has a clear advantage in tapping on the University's Design•AI developments. The



SUTD Academy's Design•AI offerings are now available to 42SG students. The intended outcome is to expand access to resources that enable more students to participate meaningfully in the AI-driven future.

With the continued rise of transformative technologies such as AI, we are witnessing a 'new' old phenomenon, where innovation once again disrupts how we live, learn, and work. Yet, amid this wave of change, the true value of 42 lies not merely in its philosophy of "no teachers", but in its **living, evolving curriculum**, one that mirrors the very nature of technology itself: **Continuous, Adaptive, and Progressive.**

In an age where AI redefines the boundaries of knowledge, 42 empowers learners to evolve alongside technology, cultivating 'power-skills' such as creativity, collaboration, and resilience — the timeless human skills that machines cannot replace.

In the world of 42, the most fundamental outcome is to acquire the mind to ask the right questions, learn to find the way forward through failing, and in the process develop meta-skills that are for life rather than for the moment. More than a number, 42 is a philosophy of nurturing individuals who stay curious, embrace ambiguity, never stop asking better questions, and form communities.

The convergence of 42's radical pedagogy, SUTD's human-centred design, and the possibilities of AI, offers a living prototype of the future of education. It is disruptive, imperfect, and still unfolding. However, the principle is clear: the future of lifelong learning must be symbiotic. Human and AI, design and technology, competition and collaboration, all functioning together, for the good of all. ■

Notes

1. Ministry of Education, Speech by Minister of State Gan Siow Huang at Graduation of 42 Singapore Pioneer Batch, 5 May 2025, <https://www.moe.gov.sg/news/speeches/20250505-speech-by-minister-of-state-gan-siow-huang-at-graduation-of-42-singapore-pioneer-batch-5-may-2025>.
2. SUTD Design•AI is a three-in-one strategy. It accelerates innovation, upskills and deepens domain expertise. Through achieving all three, you are empowered to be Design•AI 'trilingual'.

Learning & Evolving Together:

NLB's Transformation Journey

by Ng Cher Pong



As a leading player in Singapore's lifelong learning ecosystem, the National Library Board has embarked on a quest to reimagine and renew itself for the future — along with its patrons and every member of its team.



Ng Cher Pong was appointed Chief Executive Officer of the National Library Board (NLB) on 1 December 2019. He led the transformation of NLB through the conceptualisation and implementation of LAB25 (Libraries and Archives Blueprint 2025), including a fundamental shift in NLB's operating approach to bring about a more open platform, omni-channel service delivery, and expanded reach across Singapore. Before his role at NLB, he was the founding Chief Executive of SkillsFuture Singapore (SSG) and concurrently deputy secretary (SkillsFuture) in the Ministry of Education. He has been appointed CEO, Infocomm Media Development Authority from 1 November 2025.



Singapore's National Library Board (NLB) is a thought leader in the international library and archives community, with many countries seeking to gain insights from our innovative approaches in transforming library and archival services. In our 30 years as a statutory board, NLB has continually reinvented itself: from our digitalisation drive to current efforts bringing new experiences in reading, learning and discovery to Singaporeans.

Every phase of our transformation has been driven by one overarching consideration: to better serve our patrons in their reading and learning. This is especially pressing today in a fast-changing environment that is constantly being reshaped by technological advances.

But even as we pivot and adapt, we take pains to ensure that we bring everyone along, from our patrons to our NLBians. Some colleagues have even suggested that “NLB” stands for No one Left Behind!

NLB serves every year:

**7 in 10
Singapore Residents**

Total site visitorship in 2024:

20.8 million

Loans in 2024:

38.8 million



Transformation at the heart of NLB, In and Out

The first decade after NLB was established as a statutory board in 1995 saw us pursuing cutting edge innovations in library redesigns and processes. We set out to make our libraries a ‘third place’ with technology as an enabler, and worked towards delivering efficient business and excellent customer services.

To support this business transformation, we needed more staff with librarianship skills. Staff were encouraged to attend professional qualification courses to equip themselves with the necessary skills, including collection development and management, cataloguing and classification, as well as mastering specialist systems such as the Online Public Access Catalogue (OPAC) and the library circulation system that support all library transactions. As a

result of these efforts, physical library spaces and library membership doubled, collection tripled, and visitorship quadrupled in six years.

Beyond championing reading and learning, we were also tasked with the preservation of Singapore's documentary heritage. To achieve greater synergy with the National Library in documentary heritage preservation, the National Archives of Singapore (NAS), previously under the National Heritage Board, became part of NLB in 2013.

When I became Chief Executive Officer of NLB in 2019, organisational transformation was at the top of my priority list, albeit with a different emphasis: to ensure that amidst the widespread disruption across different industries, NLB continues to be relevant to our patrons. At the time, NLB was already working like a well-oiled machine. However, having been involved in the SkillsFuture movement and the national push for continuing education and training (CET), I knew disruption from technological advancement and changing societal preferences would leave no sector untouched, including libraries and archives. The COVID-19 pandemic further upended any complacency we might have held: it sharply accelerated NLB's expansion into the digital space as a platform for both content and experiences.

Our response to these disruptions was LAB25 (Libraries and Archives Blueprint 2025), developed through

rounds of brainstorming and visioning exercises with various stakeholder groups such as our patrons, partners, and communities. We looked at not just the libraries and archives space, but other related industries as well, such as the retail and content sectors, to see the innovations we could tap.



LAB25's four main pillars.

With its four main pillars, LAB25 was not so much a detailed roadmap laying out what ought to be done step-by-step, but instead it set broad directions for where we should be headed. Unlike NLB's past masterplans, LAB25 embraced an agile approach of continual experimentation and refinement, prompting us to prototype solutions, gather user feedback, and iterate our services in response to evolving community needs. It was an open call to all our partners and patrons, and our staff as well, to reimagine the future of libraries and archives together.

Transforming Team NLB

To achieve NLB's LAB25 ambitions, we had to get the entire organisation on the same page, and to move as one. Critical structural changes had to be made.

The first was to change the way we worked, which was easier said than done. While divisions already worked together on various platforms, these joint efforts could be further optimised for higher efficiency and productivity. We worked with our divisions to categorise and prioritise initiatives and projects according to our strategic objectives. Functional restructuring was implemented to prime and configure our work environment for greater agility across teams and divisions. NLB's three core business functions — the Public Libraries, the National Archives

of Singapore and the National Library — came together as one to facilitate stronger synergy in content and platform sharing. We created enabler divisions, such as the Data Office, Partnership Division and Innovation Office, to optimise interdivisional collaboration and project coordination.

The second change was to transform every member of our staff. We recognised early on that our staff were our most important resource, and the largest champion of our efforts. As early adopters, they would be the faces of change in our libraries and archives. Our people had to share the LAB25 vision, embrace how their jobs would change, and learn new skills to enable them to fulfil our shared aspirations.

An example of such shifts was the job redesign exercise for Library Officers. Technological advances, and our library patrons' increasing familiarity with new technologies, meant we had to significantly transform job roles for our library and archives staff to stay relevant. Beyond their daily operational tasks, our Library Officers had to learn how to use new technologies and to take on some of the work traditionally undertaken by professional librarians. Some of them were apprehensive about this, doubting their own professional capabilities despite having good knowledge of our business from their years with NLB. We undertook a major change management effort to help staff identify knowledge gaps and skillsets,



We undertook a major change management effort to help staff identify knowledge gaps and skillsets, providing ample space, opportunity, and mentorship for learning.

providing ample space, opportunity, and mentorship for learning.

Today, our Library Officers are confident in content creation, storytelling, curating book displays, as well as partner and community engagement: broadening their contribution to the library system. At the same time, this frees up our librarians to better support discovery and learning in bringing relevant content to the public in engaging ways, nurturing learning communities and building deeper engagement with partners to deliver learning programmes. Similarly, archivists have moved from collecting and preserving our documentary heritage to using digital technologies, affording the public greater access to Singapore stories.

Job redesign will need to be an ongoing effort, to ensure that our library and archives workforce continue to have relevant skills and capabilities in a rapidly changing environment. To give our colleagues greater clarity on the skills they needed to grow professionally and to implement LAB25, we developed a Libraries & Archives Competency

Framework. This framework highlights the skills needed to grow as a NLBian, including areas like data analytics, learning & experience curation, omni-channel platform design, user-centric design and behavioural insights, among others. We also appointed Learning Champions experienced in each of these competencies to help drive this capability building effort.

This is a framework all NLBians can use. It includes tracks for generalists, as well as library and archives specialists, who want to develop the deep expertise to implement the transformation we need today, and introduce new ones in the future. The generalist and specialists career pathways have been made porous, so that our staff have wider opportunities to pursue across the organisation. Everyone at NLB is now the driver of their own professional destiny.

We have also introduced the Learning and Archives series, a regular internal session where respective Learning Champions and HR curate sharing sessions to learn from experts, such as teamLab (an international art collective renowned for creative

immersive digital experiences), and companies like Singtel and Changi Airport Group, to share their expertise on omni-channel development.

To improve in data maturity towards more data-informed decision-making, we wanted to level up all our staff for the key competencies of data literacy and analytics. The newly formed Data Office led this drive. It developed a Whole-of-NLB approach to grow data analytics capabilities across the organisation based on how different roles would be expected to use data. This three-tiered strategy would:

1 Enable all staff to be able to support analytics work with good data collection and basic data numeracy

2 Develop a group of Data Associates with data wrangling, analytics and visualisation skills to take on medium-complexity projects in their divisions, and

3 Equip business unit leaders with skills to understand how to fully incorporate data collection and analysis into their business processes.

To date, the pool of Data Associates has successfully grown to over 116 strong.

To promote workforce agility and resilience, we encourage our officers to explore rotation opportunities, gigs and attachment programmes within NLB and in the wider Public Service. To support this, we even offered taster programmes: we created a Project Marketplace where officers could try to learn more about other roles and build their breadth of skills by volunteering to work on projects put up by other Divisions. This gives NLBians a better sense of new roles within the organisation that they might pursue in time.

To further grow the pool of library and archives professionals in Singapore, we established the NLB Academy (NLBA) in September 2024 to develop dedicated contextualised learning and development programmes. An immediate focus was growing internal staff capabilities, including in emerging areas such as the use of Gen AI in libraries and archives. The longer-term vision is for the NLBA to become a global thought-leader in training those in the libraries and archives world.

To enable change at such scale across NLB, regular internal communication has been critical. We have made deliberate efforts to share the LAB25 vision on multiple platforms, tailoring communications to our audience, to help staff see how their work relates and contributes in tangible ways to our LAB25 ambitions. This includes going to each of our libraries and archives sites

regularly — I conduct CEO walkabouts at least once a year, in between two Townhalls and a Staff Forum — and to every division, to share my thoughts on LAB25, as well as hear their views, concerns and feedback and address them.

I have reiterated the DNA all NLBians will need to deliver LAB25 successfully:

Ambition to aim high, set ambitious goals and push us further

Boldness to explore and try new technologies, new operating models and ways of working across the organisation

Clarity in knowing what we want to achieve and how it connects to the larger picture.

We have conducted multiple engagement sessions to help staff better associate with what the ABCs mean and how they can demonstrate these in their own ways. We update staff regularly on the progress of LAB25 projects, celebrate achievements, and extract valuable insights from sub-optimal outcomes — because it is equally important to learn from failure.

A National Partner for Evolving Learning Needs

In transforming Team NLB to pursue our LAB25 vision, we have embodied the SkillsFuture spirit of continual learning as

an organisation. In the process, we have also enhanced NLB's capabilities as a partner for lifelong learning in Singapore.

NLB offers a wide range of programmes and services for individuals and groups to learn together, and at their own pace, regardless of age or educational background. Under LAB25, we made a deliberate effort to organise librarians according to user age groups to facilitate planning and deliver tailored programmes to their user segments. This two-pronged approach of going by age and learning has helped us build competency in content, audience preferences, and collaborations with partners.

Based on users' interests, we have developed a framework comprising eight Learning Focus Areas: Digital, Careers, Sustainability, Reading, Science, Singapore, Wellness, Arts. We also support groups of learning communities by connecting patrons of similar learning interests, who can learn from one another in areas such as programming, Gen AI, dancing, upcycling, and history, to name a few.

It is now easier for library users to chart their own learning journeys. Through partnerships with the Institutes of Higher Learning, we have also curated tasters of SkillsFuture-funded programmes, enabling adults to learn practical knowledge and skills in under two hours, while signposting further learning opportunities with our institutional partners.



In 2024, we curated bite-sized experiences for busy working adults in the business district, exposing to engage with during lunch or after work. These helped them discover new ways to learn with NLB through our programmes, digital content and learning communities.

Using gamification techniques, we offered a personality profiling quiz, giving participants insights into their work habits and suggesting personalised learning itineraries. We achieved nearly 100,000 quiz completions.

NLB has always taken pains to ensure that our learning resources are accessible to all. Some of our efforts to bridge societal gaps and empower people in this digital age include expanding existing outreach efforts to children from lower-income families to share the joy of learning. With our rapidly ageing population, NLB has also rolled out more innovative ways of engaging seniors less inclined to traditional reading formats, while helping them to equip them with digital skills.

With the opening of the Punggol Library in 2023, we also formally launched a comprehensive suite of programmes for Persons with Disabilities (PwDs). Taking on the spirit of LAB25, these services are co-designed and co-delivered by PwD users, caregivers and disability organisations. This collaborative approach has led to a remarkable increase of over 100%

in the number of programmes led by persons with disabilities in the libraries from 2023 to 2024, and a significant 700% increase in the number of participants for these programmes.

Changes in content consumption patterns, in particular the move towards digital, has impacted not just the way we deliver our services, but also how our readers are consuming the written word. With LAB25, we are developing an omni-channel network of library and archives services that will make our content and services, including online learning resources, even more accessible to all. With reading and learning possible anywhere and anytime, we have also bolstered our digital learning resources to include online platforms such as LinkedIn Learning, Infobase Learning Cloud, and Lightbox Learning Digital Platform. These cater to learners at various life stages.



NLB continues to embed new digital elements, including generative AI, cloud tech and virtual reality, in our LAB25 experiments — giving Singaporeans at all ages and abilities many opportunities to interact with emerging technologies in a less intimidating way.

Conclusion

It has been five years since we launched our LAB25 transformation journey. As we look ahead, NLB remains committed to embracing continuous transformation, recognising that organisational evolution is not merely a singular event but rather an ongoing process essential for sustained public sector excellence.

We have sought to embed this adaptive mindset within our institutional fabric, to ensure we continue to be ready to meet future challenges in an increasingly dynamic operating environment. This is not an easy task. We have been courageous so far to take the leaps we did. We are open to ideas and willing to try things outside our comfort zone. Where there were

difficulties, we persisted in our pursuit of objectives, until we saw our efforts pay off.

NLB's transformation would not have succeeded had NLBians not all recognised that we needed to reprioritise, and reorientate ourselves for the future, both as an organisation and to serve Singapore. Change does not sit easy with many. By making sure everyone in the NLB family is a part of the change, and working together through the challenges along the way, we have come closer as an organisation, and are the stronger from it.

We are still a work in progress. But as we mark our 30th anniversary this year, we will take the opportunity to turn the page and strive for a new chapter in NLB's evolution. ■



Reframing Work for the Future

by Desmond Chew

The CPF Board's Agency Services Group (ASG) shows how public agencies can build future-ready capabilities through workforce transformation and continuous learning, supported by strong internal staff engagement and comprehensive planning.



Desmond Chew is the Group Director of the ASG at CPF Board. In this capacity, he oversees the Board's implementation of citizen disbursement schemes as the Government's Centre of Excellence. Since joining the Board in 2000, he has held a range of leadership appointments spanning housing, policy, and customer relations. He was conferred the Public Administration Medal (Silver) in 2022 in recognition of his contributions to public service.



The CPF Board's ASG is the Singapore Government's key implementing unit for its citizen disbursement schemes.¹ Currently, with a strength of about 120 officers, ASG manages end-to-end operations — from data processing and eligibility checks to disbursing payments and addressing enquiries and applications to re-assess scheme eligibility — for public schemes such as Silver Support, GST Voucher and Workfare Income Supplement. Beginning as an ad hoc team handling occasional national projects, we have evolved into a sophisticated operation that implements an average of 3 new national schemes annually.

ASG's impact has been most evident during times of crisis. During the COVID-19 pandemic, we implemented 13 schemes from 2020 to 2021. These included both widely publicised schemes such as the Solidarity Payment and Job Support Scheme as well as lesser-known ones such as Market and Hawker Centre Relief Fund scheme, which disbursed \$5.4 million to 10,000 hawkers to alleviate the loss of income during the pandemic. As of 2024, ASG has administered over 44 different schemes, reflecting exponential growth in capability and reach.

The Past: Scheme-Centric Work Silos

Historically, ASG officers had worked in small vertical teams, specialising

in individual schemes. This structure worked well when the schemes handled were fewer and simpler.

However, this model had become unsustainable in light of new challenges, such as:



Compressed timelines due to national interest or economic reasons, e.g. urgent implementation of COVID-19 support measures to provide financial relief;



Resourcing and manpower challenges; and



Increasingly complex and customised requirements for scheme implementation.

With the Singapore Public Service embracing digitalisation and integrated service delivery, we needed to pivot to a more sustainable way to implement schemes. Our pivot was also an opportunity to streamline business processes and efforts, since many of the schemes we managed shared similar operational processes (e.g. disbursement via common payment modes) and system requirements.

As part of this agency transformation, we wanted to equip our officers with new competencies — from data analytics and process automation skills to agile project management — to better tackle the evolving landscape of citizen disbursement

schemes. This objective aligned perfectly with the national SkillsFuture movement's emphasis on building a nation of lifelong learners that value skills mastery.

ASG's Transformation Journey

Building a Future-Ready Workforce

ASG's organisational transformation was not simply about restructuring: it was about building a workforce equipped with the skills and knowledge to meet future demands while being empowered to do their life's best work. This was facilitated through careful planning, identifying and placing officers in roles that matched their strengths; developing targeted competency frameworks to apprise officers of the competencies required in the new roles; and curating training roadmaps to upskill and bridge any competency gaps.

From Scheme-Centric to Function-Centric

A key pivot for ASG was the shift from scheme-specific teams to teams organised around functions (e.g. the team in charge of disbursement now oversees payout disbursement for all schemes). This eliminated duplication across different schemes that shared common functions such as disbursing payouts and sending notifications. The newly

organised functional teams could now focus and build on their respective core capabilities (e.g. data provision/allotment, disbursement, customer experience, addressing enquiries and applications to re-assess scheme eligibility). This shift also harmonised common business processes, standardised workflows and templates across schemes, in a way that could be easily extended to new schemes.

From Specialised to Broader Skillsets

This functional structure allowed our officers to develop deeper expertise in two ways. First, by focusing on specific functions rather than schemes, officers could master their individual domain areas (such as data analytics or customer service) through curated training roadmaps and apply these skills across multiple schemes. Second, as officers handled similar functions across different schemes, they gained broader exposure to the overall landscape of citizen disbursement schemes and discovered new opportunities for improvements.

Through regular feedback sessions with the supervisors, officers shared the differences encountered in operational processes across schemes and came together to identify best practices that could be applied across the board. Officers were also encouraged to share their experiences and key learning points at suitable platforms to foster broader learning (e.g. department or cross-department meetings). These strengthened our culture of continuous improvement and innovation.

Our Transformation Approach

ASG adopted a ‘think big, start small, act fast’ approach in our transformation, implementing concrete changes in how we operate. For example, to shift from having separate teams addressing enquiries and applications to re-assess scheme eligibility across different schemes, officers were cross-trained to become proficient in every scheme, while at the same time re-engineering the underlying business processes (e.g. aligning service standards and standard operating procedures across schemes) and IT systems (e.g. setting up a centralised Case Management System for cross-scheme cases).

Recognising that our people were central to this transformation, we carried out comprehensive engagement across all levels. We engaged middle managers through leadership conversation sessions to co-create our vision of success. At the ground level, we facilitated open dialogue through regular “ASG Connect” sessions and focus group discussions, while establishing dedicated platforms to ensure our policy owners bought into changes. To strengthen our partnership with key stakeholders such as the Ministry of Finance, we established secondment arrangements for our staff to strengthen cross-learning, inter-institutional communication and understanding.



ASG's Approach to Strategic Workforce Transformation

Drawing on our inclusive change management approach and strong governance structure, ASG was able to transform our workforce through these key initiatives:

Systematically defining functional team roles through Strategic Workforce Planning

We thoroughly reviewed the proposed organisational structure, scope of work, and identified optimal functional team placements, carefully identifying and placing officers in roles that matched their strengths.

Through close partnerships with relevant stakeholders such as CPF's Human Resource Department and many rounds of deliberation and planning, we optimised the job fit for affected officers while demonstrating our commitment to people-centric change management.

Developing targeted competency frameworks and training roadmaps

We established proficiency level tagging for both core and technical skills in ASG and identified competency gaps across three focus areas:

- 1** service operations planning and management (e.g. business requirements mapping, design thinking)
- 2** service data management and analytics (e.g. agile methodology, drawing policy insights from data analysis)
- 3** change management

We then worked with the Civil Service College and internal stakeholders to curate a list of relevant training courses. Feedback from officers attending these courses was used to iteratively refine our approach to capability building.

Maintaining transparent communication about changes and support measures

Through "ASG Connect" sessions, team leads shared detailed insights about their functional teams' scope of work and key priorities, reinforcing our inclusive engagement strategy.

By combining strong governance with inclusive change management, ASG not only transformed while maintaining operational excellence, but also built a resilient foundation for future change.

Reaping the Benefits of Transformation

Through strategic transformation, ASG optimised our delivery of services to the public while reaping significant organisational benefits:

— **Harmonised common business processes:** Consolidating similar processes across different schemes has enabled greater scale economies and efficiency. Establishing common templates and workflows have eliminated redundancies and created scalable processes that could be easily replicated for new schemes. This has enabled CPFIB to implement more citizen disbursement schemes over time.

— **Enhanced service experience:** As part of streamlining our processes, we worked with ministry partners to align operational guidelines and documentary requirements across schemes. This has led to a more consistent customer experience for citizens requesting for a re-assessment of their eligibility for different schemes.

— **Better retention and attraction of talent:** More disbursement schemes in action means our officers have more opportunities to build skills, experience and broaden their work exposure. They get to build expertise within their specific domains, while

being deployed more readily to support multiple schemes. This leads to better opportunities for professional growth and more engaging career paths.

ASG's transformation has yielded significant results: our operational efficiency and productivity have markedly improved, with the turnaround time for new scheme implementation reduced by 20% and the cost per dollar disbursed decreasing to less than \$0.01. Our capacity has grown exponentially, from supporting 2 schemes in 2012 to successfully administering 15 schemes in 2024.

Beyond systems and processes, people are at the heart of ASG's transformation. Responding to a recent pulse survey, more than 90% of our officers expressed that they found their job meaningful, challenging and interesting. About 80% felt confident about the change even with new structures and streamlined processes in place.





Shawn, who joined ASG in 2017, shares his experience of being part of the agency's transformation efforts:



“ Before ASG's transformation, my work was confined to processes and IT systems for a single scheme. After the transformation, I had to shift from being a specialist in a single scheme to being versatile and well-versed across multiple schemes.

It was not an easy transition, as my workload changed dramatically. From following a specific set of procedures when addressing enquiries and re-assessing individuals' eligibility for one scheme, I found myself managing cases across multiple schemes, working with different IT systems and juggling various processes. To be honest, the change was initially overwhelming. The steep learning curve of taking on multiple schemes was daunting. However, we managed to overcome this: through comprehensive training provided to affected officers, e.g. hours and hours of briefings on the scheme operation processes along with on-the-job-training on how to handle different scenarios; and more importantly, collaboration and teamwork with my colleagues. We supported one another, shared knowledge and gradually built confidence in handling cross-scheme operations.

This transformation process has not only expanded my technical knowledge, but also helped me become more resilient and innovative in my work. One of our proudest achievements was when we developed straight-through processing capabilities, enabling certain cases to be re-assessed automatically without human intervention. This allowed us to have more time to take on value-adding work such as other process improvement initiatives.

Looking back, I have found the continual need to challenge ourselves to think creatively about process harmonisation and policy changes deeply rewarding. **”**

Learning from Transformation

Key Challenges

While our transformation journey has yielded significant benefits, it also threw up some challenges that demanded unique solutions and steadfast commitment from our officers:

- **Minimising impact to BAU while undergoing transformation:** As the key implementer of citizen disbursement schemes across government, ASG had to continue implementing new policy initiatives while maintaining existing operations during the transformation. The COVID-19 pandemic was particularly challenging as we had to implement urgent support measures like the Care and Support Package and the Self-Employed Person Income Relief Scheme (SIRS) in the midst of our transformation, while officers were still getting to grips with the new team structures.

We overcame this by moving in phases instead of adopting a 'big-bang' approach. Beta teams centred around functions were set up to operate in parallel with the existing teams which were still scheme-specific. Pilot teams progressively evolved into full functional teams over time, allowing time and space to iteratively learn and adjust.





—o **Managing mindset shifts and building learning agility:**

The shift from scheme-centric to functional teams meant fundamental changes in job scopes and team dynamics for most officers. This led to challenges we did not foresee. For example, transiting the team handling enquiries and applications to re-assess scheme eligibility to the function-based model gave rise to workload and upskilling issues as officers had to juggle multiple schemes and familiarise themselves with the operation processes for schemes that they had not been exposed to, even when they were working on their existing scope. Officers were initially overwhelmed from having to deal with new ways to handle cases covering multiple schemes. New solutions had to be found to handle multiple peak periods across the year (with schemes implemented in different months) compared with a single peak period for one scheme. This steep learning curve when gaining proficiency across multiple schemes highlighted the need for a longer acclimatisation period.



Moving in phases instead of a ‘big-bang’ approach allowed time and space to iteratively learn and adjust.

To address these issues, we adopted a multi-strategy approach. First, our leadership team invested significantly in change management to ensure a smooth transition. We conducted 18 leadership conversation sessions to reinforce a common vision of success for the transition. We also regularly updated our officers on transformation plans through various Connect sessions helmed by our change sponsor and I. These sessions focused on three key messages: updating the progress of upcoming initiatives, explaining the rationale behind key decisions, and highlighting the personal impact and benefits for officers (e.g. emplacement to higher value, redesigned jobs).

We established a Community of Practice (CoP) for team leads, creating a safe, open platform to raise awareness about concerns such as manpower constraints and workload issues, and to brainstorm solutions together.

We also collaborated with ministry partners such as the Ministry of Finance to get their support in resolving some of the resource constraints by bringing in short-term manpower, and planning

and stretching out our implementation roadmap more sustainably.

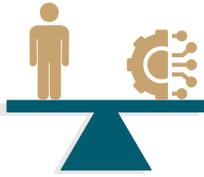
Good Practices

ASG's transformation offers valuable lessons for organisational change in the Public Service. Its success rested on two fundamental pillars:

- **Fostering unity through inclusive change management:** Building trust with our people was both a driver and an outcome of success. In our journey to move as ONE ASG, we carried out a comprehensive engagement strategy operating at multiple levels: from leadership to officers to agency stakeholders. We realised early that change management is not about “negative consequence management”. Critically, good change management puts in place strong pillars that support positive growth and successful implementation. A foundation of trust and open communication proved invaluable as we were able to identify teething issues early and resolve challenges more promptly. Cross-team collaboration also helped to align officers from



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A dedicated transformation office ensured both the human and technical aspects of transformation received equal attention.

different teams towards common objectives (e.g. product development and scheme administration teams working together to make revised business processes compatible with the new IT system).

- **Establishing a strong governance structure:** Early in this effort, ASG set up a dedicated transformation office with two critical functions: change management to coordinate and oversee the transformation journey, and project management to develop future work processes and underlying IT systems. This dual focus ensured both the human and technical aspects of transformation received equal attention. For example, the transformation office acted a neutral arbitrating party when differences arose between newly formed functional teams. It also helped bridge senior management and officers on the ground.

Looking Ahead

Our transformation from a scheme-centric to function-based operating model significantly enhanced our operational capacity. From managing 2 schemes in 2012, ASG has grown exponentially to administering 15 schemes in 2024, with further growth expected in the coming years, as the landscape of disbursement schemes continues to evolve.

Our new operating model and foundation of trust exemplifies the SkillsFuture movement's emphasis on lifelong learning and skills mastery. It has made possible a much stronger alignment between our human capital, business processes and technical infrastructure. This positions us well for future expansion, as we extend our capabilities to more use cases across government. ■

Note

1. CPF is designated as the whole-of-government Centre of Excellence for citizen disbursement schemes due to its expertise and extent of reach over target beneficiaries. Such specialisation enables better organisation of implementing capabilities across government, greater operational efficiency, and better customer-centricity in service delivery.

SKILLING UP FOR THE FUTURE

by Tan Kok Yam





SkillsFuture Singapore (SSG) is the agency driving the SkillsFuture movement nationally. Its Chief Executive shares how the agency is meeting the needs of a rapidly changing world of work – and what organisations can do to level up for the future.



Tan Kok Yam is the Chief Executive of SkillsFuture Singapore (SSG). He leads the organisation to drive and implement the national SkillsFuture movement. To this end, SSG strives to promote a culture of lifelong learning, build a support system to enable the pursuit of skills mastery, and raise the quality of adult education and training in Singapore.

How have learning and workforce development needs changed in the past decade?

In the ten years since SkillsFuture was launched, key shifts have taken place. First, the pace of change in the labour market has accelerated tremendously. Second, the public expectation of the SkillsFuture movement has gone up, and rightfully so as we reach a certain level of maturity. Whereas previously we were getting the public to embrace the idea of lifelong learning in general, individuals now expect training that has a real impact on their jobs and careers; that enhances their market value.

To meet these emerging needs, SSG's organisational capabilities have also had to evolve.

In the past, we gained an understanding of the labour market by convening and collating expert opinion from different industries and agencies, taking anything from three months to two years to do so. If we continue with this approach, we will always be two to three years too late in understanding where the labour market is going. While expert perspectives remain important, we have had to find new ways to interrogate the labour market directly, using a combination of labour economics, data analytics, machine learning, AI and so on, to tease out more real-time insights about what the labour market is looking for in terms of skills.

As our understanding of the labour market improves and becomes more current, we then also need to be able to activate timely development of the demanded skills: our operations have to be more agile in making the right training available to our learners. Our cadence must match the cadence of the market. As the public comes to expect more from us, we will need to be more responsive to customers, offering them a level of service quality and efficiency that retains their confidence in the movement and its goals. We should also relieve our training providers and learning partners of any unnecessary administrative burden, delay or uncertainty in dealing with us for approvals and other processes. All this means SSG must step up our customer service and operational delivery.

A third priority is to understand that no matter how well we query the market, we cannot be experts in everything: to advance the SkillsFuture movement, we must rally as many allies as possible even as the labour market becomes more challenging. This means building up our organisational capability to build networks, persuade queen bees, big companies and other learning partners to come on board. When we recruit an ally, it is not to bask in their brand or success: we need to show that the relationship is a meaningful one. We need to find ways to engage not in a vendor-client way, but as partners in a broader ecosystem.

How has SSG sought to realise these new organisational capabilities?

In the past few years, we have reorganised ourselves to sharpen the new capabilities we need. We have structured our divisions into three groups, each responsible for one organisational capability.

First, there is a group responsible for *operational excellence*: which includes operations research, analysis and optimisation, as well as due diligence functions such as anomaly or fraud detection. Their goal is to make our processes as seamless and efficient as possible: for instance, by automating grant management so our training providers can receive their grants in time.

A second group pursues *engagement excellence*, including a unit taking care of customer experience. This group looks at how to engage companies and individuals, addressing the whole gamut of issues they may have about the SkillsFuture process: from prosaic questions such as how to claim credits to conceptual questions like how the green economy might be relevant to accountancy.

Finally, our quality management group strives for *pedagogical excellence*. They monitor the quality and standards of our training providers and courses, and looks at

ways to improve the training and learning process.

Organising our staff this way gives them pathways to excel within each group's mission. They do not have to be locked into any one job, but can play a range of roles. So, an officer in the operations group could work on research, data analysis, anomaly detection, or process enhancement — they can broaden or deepen their contributions towards the agency's aims.

We have also invested in data and digital capability. When I first became CE at SSG, the agency faced a significant technical debt. In my previous appointments, townhall meetings were often about HR issues. At my first town hall in SSG, the main issue our staff brought up was that the IT systems were not up to the task. The technology was not giving our people confidence: in fact, they ended up creating more red tape and inconvenience. We had to overcome this first in order to be effective in our mission.

Part of how we addressed this issue was to make all our data and analytical



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platforms widely available to staff. We encouraged and empowered all our staff, through bootcamps, to engage with the data, whether or not their work directly required it. We did not just say, we need one data management person so we will just train one: we trained everyone and allowed discovery and experimentation to take place. The more people use these tools and this data, the more new ideas and new ways of doing things will emerge. Even if only some of these ideas work out, it would make a significant difference.

An important principle in digital and data transformation is that management not only does not have all the answers, we may not even have all the questions. Line

departments are the ones who know best what we need to ask of the data in order to address actual frontline concerns: hence, we are making our data more accessible and available for them to query.

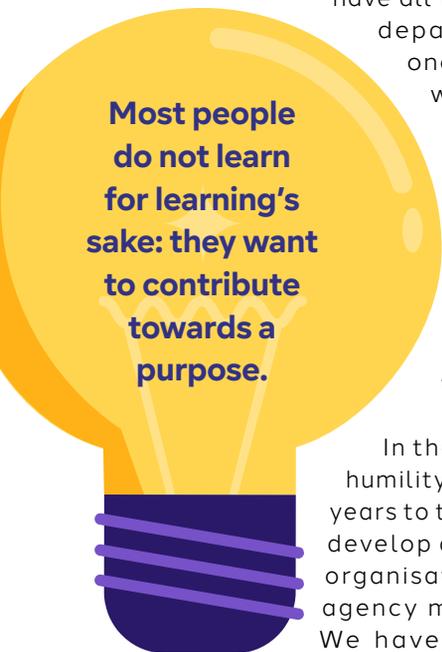
In the journey to learn, humility is vital. It may take years to train up a person or develop a capability in our organisation that another agency may already have. We have had to be open

to exploring and bringing in fresh perspectives. For instance, SSG has been seconding staff from GovTech, as well as labour market economists from DOS, to help us level up certain skills quickly in the areas that we need. To build up our capacity, we also need a certain flow and circulation of people from the private sector, who are more familiar with the way particular industries work.

These broad changes are all about equipping SSG with the muscles to address new challenges and better serve the SkillsFuture movement.

What have you learnt about organisational learning and transformation from the quest to skill SSG up for the future?

First, most people do not learn for learning's sake: they want to contribute towards a purpose. So, it is important for an organisation to have an ambitious goal to provide a sense of mission. We need to identify problems that are meaningful and challenging and also clarify the organisational capacities we need to build to address these challenges. Then we link these to the human capabilities needed realise this: and we communicate this to everyone, so they can see how what they are learning and doing makes a difference to the bigger picture.



Next, it is important for an organisation's leadership to encourage and support an ethos of overtraining. If an individual is interested in any particular training, we should give them access to it. Even if the new knowledge or skill may not seem directly applicable to their current job role, there are other roles in SSG that will need it: it will not go to waste. It does not matter if those learning about frontline customer service management are back-office staff: it is good for everyone to understand the challenges and concerns of customer engagement. This is all part of understanding the organisation as a whole.

Third, psychological space and safety are absolutely vital for an organisation's people to come up with new ideas and challenge preconceived ideas or ways of doing things. You need to have the intellectual cut and thrust to debate and refine ideas without hurting feelings. Without realising this safe space, your organisation is not going to learn, adapt or grow.

Finally, we need to protect our people's time, so they are able to learn, explore and innovate rather than be swamped with their workloads. We need to let people know they do not have to feel guilty about being away from work for training. We must not eat too much into our staff's time for self-improvement and investment in their own capability-building just because we have a lot

of fires to fight. This is easier said than done, but we must make the effort.

Part of achieving this is to have the organisational will to commit to certain skills-building activities, recognise them as mission-critical, non-negotiable, and hence give them protected time. Supervisors need to be convinced that the more competent our people are, the better. Investments in training will eventually pay off: even if training means delaying work a little today, the stronger the team will be tomorrow. The alternative is to be so immersed in solving today's problems that we fail to hedge against future disruptions and needs that we may not even be clear about yet.

New skills may not seem immediately useful, but they are a form of insurance for the future: it would be too late to train only when a new challenge turns up, or when a new opportunity to exploit a new tech or technique arises. This is akin to relationships. Networks and trust need a long runway to build — we cannot call on partners only when we need help. We need to invest these efforts well ahead of need.



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Can you highlight examples of how learning initiatives at SSG have led to transformational outcomes?

When SSG's data team first started and was seeking questions to ask of our data, it was difficult to get our divisions to think of data-driven lines of enquiry. Today, they have been swamped with lines of enquiry — everyone now wants a piece of the data action. Our data team is now telling these internal customers they can query the data themselves. This is a happy problem because it means the new technology has proven its productive value and is in demand. This also comes from our people being empowered with the skills and knowledge to think about its uses and relevance to the problems they are trying to solve.

They have this new resource, the ability to harness it, and want to make use of it. No one person could come up with all the different lines of enquiry the collective wisdom of the staff

is generating, and it is making a difference to our mission.

Indeed, this is a microcosmic demonstration of the larger shift in today's economy: from the dated Taylorist work of the industrial age — where workers are assigned very specific, discrete tasks with specific KPIs — to an environment where we cannot in fact tell workers exactly what to do. Instead, just like with footballers in a seasoned team, we give them a goal and the general game plan, and we trust their skill and intuition to carry it out. This is how we must think about deploying human capital today.

Sometimes, the problem before us is a basic one, but it can hold the mission back. For instance, one of the basic challenges we had was attendance-taking for our courses: we needed to make sure the person who signed up attended the course, the training was delivered, and the grant money invested had not been abused. The old way of doing this required a good deal of manual work and record keeping, and follow-up audits. It locked up a lot of resources both for the providers and our own officers, which is a deeply unsatisfying situation.

To resolve this, we adopted existing technology used during the COVID pandemic for Safe Entry: a simple Singpass verified QR code system for learners to validate their attendance.



This simple step to centralise and streamline attendance-taking changed the game. If someone registers their attendance in the system, we take it as their own responsibility to actually attend the course and to learn. It allowed our SSG officers and our providers to focus on higher order tasks. Instead of manually ticking boxes, they can now use the consolidated digital attendance data to scan for anomalies, and to even look at how course design can be improved.

This is just one example of how SSG and the SkillsFuture movement has to mature and transform, away from a numbers game towards being more inclusive and more reflective, in order to do more and meet greater expectations. Technology is being deployed not for its own sake but to permit us to do things differently and to do more different things. This is part of what SkillsFuture is about.

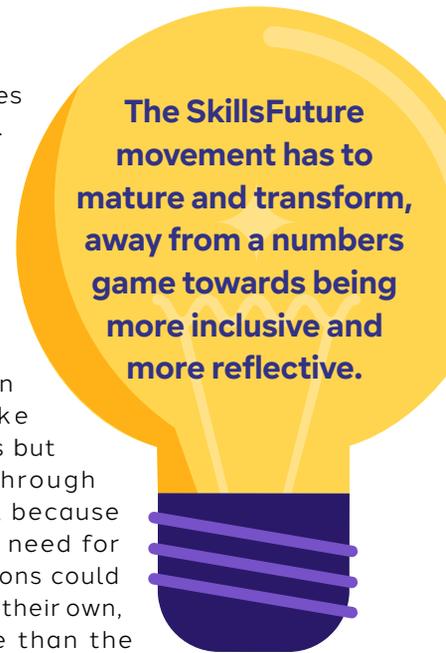
How do you envision SSG's role changing in future as the spirit of the SkillsFuture movement takes hold more broadly?

In theory, it is possible that lifelong learning is so embedded in our national culture that SSG will no longer be needed to nudge and facilitate these efforts, but that is unlikely for now. A more realistic trajectory is that our efforts, along with the SkillsFuture

movement, becomes more decentralised. The trade associations and professional bodies could play more of an autonomous role: for instance, one Swiss organisation does not take government funds but funds training through membership fees, because members see the need for it. These associations could choose to move on their own, at a quicker pace than the national norm, driven by their sector's priorities. This would be a good development for Singapore.

I think SSG will have to be around to address cross-domain, cross-sectoral needs, but the movement will be strengthened by having more, different parties come forward to be part of the ecosystem.

Our efforts in the past were all about scaling up capacity, and dealing with the challenges of scaling. But we do not want to just be good at scaling up, nor do we want to be a grant-giving body, an ATM for training providers. We want quality, relevance and responsiveness. This is what Singapore needs. As an organisation, we must level up to help realise this next bound of SkillsFuture. ■





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