

SMEs at risk of tech fatigue without critical skills and expertise

The benefits of digitalisation are clear. But security risks and a relentless cycle of upgrades and updates make it challenging for smaller businesses.

Lee Yee Fung

On Sept 24, a senior executive at CrowdStrike said the cyber-security company was “deeply sorry” for the global IT outage in July that crippled industries and led to flight cancellations across the globe. Mr Adam Meyers was testifying before the US House of Representatives subcommittee on the faulty software update that caused the outage.

The CrowdStrike incident is a vivid example of the vulnerability of systems which are so interconnected today that a single point of failure outside the control of businesses can end up affecting them significantly.

For small and medium-sized enterprises or SMEs, the fact that recovery is a painstaking manual process in which each device needs to be rebooted, and the offending file deleted, simply adds to the burden and their sense of helplessness.

Nonetheless, the good news is that we are seeing more businesses digitalising and benefiting from digitalising.

In the National Business Survey – Smart-Enabled Businesses Edition, of the more than 500 businesses polled between May and July 2024, 77 per cent of Singapore businesses are enhancing their operational processes through digitalisation. They reported that these investments have improved business performance through more optimised operations, reduced operations costs, and enhanced employee collaboration.

The findings are in line with the Digital Enterprise Blueprint (DEB) launched by the Ministry of Digital Development and Information earlier in the year, where it was reported that the technology adoption rate for SMEs had increased from 74 per cent in 2018 to 95 per cent in 2023.

The Government is also



Small and medium-sized enterprises (SMEs) are turning into the weakest link in our business ecosystem, says the writer. The Cyber Landscape 2022 Report highlighted that SMEs, especially those in manufacturing and retail, are the top targets for ransomware attacks. ST FILE PHOTO

doubling down on support for enterprises and workers in harnessing digital technologies, particularly artificial intelligence (AI), to drive growth, innovation and resilience.

The blueprint identified four areas to help enterprises – be smarter, scale faster, be safer and upskill workers – with the target of benefiting at least 50,000 SMEs over the next five years.

These are moves in the right direction, and it is heartening that the Government has been investing significantly over the years to support SMEs on their digitalisation journey, from providing playbooks and giving financial support to pulling the tech ecosystem together.

But for SMEs operating in an increasingly resource-constrained environment, talk about digitalisation often invokes a sense of both urgency and fatigue, as well as helplessness.

The sense of urgency is because the writing on the wall is clear. Every business has to be a digitalised one. Customers are demanding to have a digital option to engage and interact with businesses. Having a digital presence and participating in digital platforms also open up new

marketing and distribution channels.

Digitalisation is also critical for productivity gains in operations and distribution. The old days when delivery dates for online purchases could be weeks away are unacceptable in today's competitive e-commerce landscape.

Fatigue sets in because the need to keep up with every new tech cycle is relentless. The speed at which top consumer apps achieve 100 million users has accelerated from Twitter's (now X) five years and five months in 2006, to ChatGPT's two months in 2022. Moreover, technology is becoming obsolete at an accelerating pace, forcing businesses to constantly re-map their operations and reinvest in new systems at a much faster rate than before.

CAPABILITIES – KEY CHALLENGE

In the next 12 months, emerging technologies like artificial intelligence and cyber security will be key trends impacting businesses.

Many businesses have to contend with integrating new tools and technology with existing systems and this is an area where

there is scope for the existing range of support to be refined to increase their effectiveness.

For example, a business looking to enhance its marketing efforts may leverage digital marketing tools and platforms to reach a wider audience. The process of integrating these tools with the company's existing website, customer relationship management (CRM) and analytics platforms can be complex.

More companies have indicated absence of management expertise, challenges to staff upskilling and lack of access to necessary technology and experts as other key obstacles to successful business transformation. The percentage of companies that cited upskilling of staff to keep up with new technologies as a key challenge increased from 29 per cent in the 2023 survey to 47 per cent in 2024.

The findings tell us that SMEs are focused on building their businesses, and do not have the resources to attract and retain in-house technical expertise to manage the growing complexity of digital transformation.

For most SMEs, the volume and nature of work may not justify such experienced hires. And,

unlike tech companies, it is challenging for non-tech companies to hire inexperienced staff and train them up, as they lack in-house talent to mentor them.

Nearly 70 per cent of survey respondents cited financial support for digital advisory and project implementation services specific to their companies' needs as the most important. Similarly, assistance that supplements in-house expertise, such as a central reference for up-to-date solutions and resources, workshops to raise awareness of new technologies and best practices, and platforms for sharing best practices used by other companies all received strong responses.

The Infocomm Media Development Authority's chief technology officer-as-a-service (CTOaaS) is an attempt to fill this gap. Introduced in 2022, it provides the framework for companies to access both advisory and implementation support services. Since its launch, over 92,000 users have accessed resources on the CTOaaS platform, and more than 1,600 companies have utilised its digital consultancy services.

While this programme has achieved some success, more can be done to address the twin needs of helping businesses move up the tech ladder at a faster pace and addressing their more complex integration needs as they move past their first digital solution.

For example, the scope of funding support from the Government can be reviewed to consider not just the cost of purchasing digital solutions and basic advisory and implementation support, but also costs related to more complex digital project implementation.

DON'T WAIT FOR BREACH TO TEACH

With heavy reliance on technology, the impact of a failure is also magnified. The DEB has also rightly identified improving SMEs' cyber resilience and strengthening trust in our digital ecosystem as a focus area. Enterprises need to be prepared to manage such occurrences by building up resilience and practising back-ups and business continuity plans.

Unfortunately, there is a dearth in cyber-security capabilities among the SMEs. While general awareness of its importance is there, it is not easy for small businesses to translate it to plans and actions. This is further exacerbated by the rapidly evolving cyber threats, resulting in a sense of frustration with increasing costs that are not viewed as directly linked to revenue growth.

SMEs are turning into the weakest link in our business ecosystem. The Cyber Landscape 2022 Report highlighted that SMEs, especially those in manufacturing and retail, are the top targets for ransomware attacks, not because they are profitable for the cyber criminals, but because the SMEs are easy targets.

With SMEs making up 99 per cent of enterprises in Singapore and employing 71 per cent of the workforce, a more active engagement programme is needed to get them onto the Cyber Essentials mark.

Working with partners on a retail level campaign – similar to the efforts to help hawkers come on-board digital payment solutions – could be a solution where SMEs are directly engaged to help strengthen their cybersecurity.

Singapore has been on the digitalisation journey for some time now and has good results to show for it. But it is imperative that we are sensitive to how the landscape for businesses has shifted, and take active steps to overcome the challenges to further increase the digital quotient of our businesses.

• Lee Yee Fung is the chief smart technologies officer of the Singapore Business Federation.

Four everyday AI competencies to make Singapore's Smart Nation 2.0 work

With rapid advances in technology come new challenges and opportunities.

Chew Han Ei

With the launch of Singapore's Smart Nation 2.0 strategy by Prime Minister Lawrence Wong this week, the country strides into a future powered by artificial intelligence (AI). This refreshed vision focuses on three key goals: Trust, Growth and Community – ensuring that digital technology improves lives, drives economic progress, and fosters inclusivity.

AI, a key driver of this strategy, is no longer confined to tech firms and laboratories. It is embedded in the apps we use daily, from streaming recommendations to virtual assistants managing our schedules.

While this offers tremendous potential, many may feel anxious about its impact on jobs, safety and social cohesion. The idea of this set of technologies replacing human roles in everything, from administrative work to decision-making, raises

understandable concerns. However, engaging with it does not mean we all need to become developers or data scientists. Instead, most people can focus on acquiring everyday AI skills that allow us to use the technology responsibly and productively.

In line with the Government's Smart Nation 2.0 vision, I propose four essential competencies in this technology that will equip Singaporeans to meet the new challenges and seize the opportunities of this AI-driven era.

FOUNDATIONAL COMPETENCE: RECOGNISING AI IN EVERYDAY LIFE

AI is embedded in many aspects of our daily lives, often without our even realising it. For example, on platforms such as OneService, it powers chatbots that answer queries and guide users through municipal services. Similarly, Grab and foodpanda use it to optimise routes, speeding up food deliveries and making them more efficient. Even our interactions with streaming platforms such as

YouTube and Netflix involve AI algorithms that recommend content based on our viewing history.

More critically, online harms such as deepfakes or manipulated videos and images generated using AI are becoming a growing threat. In Singapore, Senior Minister Lee Hsien Loong has repeatedly been the target of deepfake scams, where his likeness is used in investment scam videos to mislead people. As its use in creating such content grows, the ability to recognise AI-manipulated information will become increasingly important.

Singapore's National Library Board launched the Sure (Source, Understand, Research, Evaluate) campaign in 2013, promoting media literacy and responsible consumption of information. With AI-generated content becoming more sophisticated, the Sure campaign is now more relevant than ever. It, too, is evolving to help more users identify deepfakes and AI-manipulated content and equip them to navigate the information landscape of the new era.

TRUST: NAVIGATING ETHICAL CONSIDERATIONS

The Smart Nation 2.0 vision prioritises building trust. As AI becomes more integrated into daily life, ethical challenges emerge, such as biased algorithms or misuse of personal data. Back in 2018, one well-known example was Amazon's machine-learning recruitment tool, which was found to discriminate against female candidates. This discovery underscores the need for rigorous oversight and transparency in the use of such systems.

In Singapore, AI Singapore's White Paper on Ethical

AI outlines key principles that guide the responsible use of this technology. To build everyday trust in it, Singaporeans must be informed about these ethical concerns. Whether it is its use in screening job applications or curating content on social media, critical thinking is essential to ensure that these technologies are used fairly.

By promoting transparency and accountability, we can prevent potential risks such as data misuse, discrimination and biased decision-making. Understanding the ethics of this technology is key to maintaining trust in these systems, ensuring they benefit all Singaporeans equitably and contribute to a safer, more reliable digital environment.

GROWTH: UTILISING AI FOR PRODUCTIVITY

The Smart Nation 2.0 vision also emphasises growth, using AI to empower individuals and businesses to thrive in a digital economy. In the banking sector, such tech tools as DBS NAV Planner provide personalised financial advice by analysing spending patterns and offering tailored saving strategies. Similarly, OCBC utilises AI tools like Wingman and Buddy to automate routine tasks, generate client insights, and enhance customer engagement, making personal finance management more accessible.

In the workplace, these tools are automating mundane tasks across industries. For instance, the public sector has deployed the technology in MyInfo, which streamlines administrative tasks by auto-filling forms for various government services, and AI-driven scheduling assistants are becoming more common in

offices, enabling employees to focus on higher-value work rather than time-consuming tasks.

The technology is also transforming education. The launch of the EdTech Masterplan in 2023 introduced five AI-powered tools into schools, including “learning feedback assistants” for subjects like mathematics, English language, and short-answer questions. These tools deliver real-time feedback on student assignments, supporting students as they learn.

Another tool, the Authoring Copilot, aids teachers in crafting lesson plans by helping them create activities and components based on their input. The implementation of these systems allows educators to dedicate more time to advanced content while providing students with personalised learning experiences.

COMMUNITY: EMBRACING LIFELONG LEARNING

In a rapidly evolving digital world, lifelong learning is critical for Singaporeans to stay ahead. The SkillsFuture initiative, a core pillar of Smart Nation 2.0's goal of community, provides citizens with opportunities to upskill in AI, data analytics and other digital competencies. SkillsFuture helps ensure that Singaporeans, from fresh graduates to retirees, can adapt to the changing digital landscape.

Retail workers in Singapore, for example, are increasingly using tech-driven customer service tools like chatbots to improve shopper experiences, while those in the finance and legal sectors must adapt to AI systems that automate tasks and provide real-time analysis. By taking advantage of SkillsFuture courses,

Singaporeans can transition into higher-value roles that require critical thinking, creativity and the ability to manage AI-powered tools.

As this technology continues to evolve, the ability to learn and adopt new skills quickly will become one of the most valuable assets for Singaporeans, ensuring that no one is left behind in our digital future.

EQUIPPING SINGAPORE FOR THE AGE OF AI

As the lead author of Singapore's Unified Framework for Digital Literacy (UFDL) in 2021, I aimed to create a guide to equip Singaporeans with the skills needed to thrive in a digital world. Although only three years have passed, the rapid advancements in AI have shown that the framework must now evolve. The pace of this development has been astonishing, and the goals of Trust, Growth and Community outlined in Smart Nation 2.0 highlight the importance of updating the UFDL to include AI-specific competencies.

By recognising AI in everyday life, navigating its ethical challenges, utilising it for productivity, and embracing lifelong learning, Singaporeans will be better equipped to succeed in the age of AI. This will not only make Singapore more competitive globally but also foster a more inclusive, future-ready society that benefits everyone.

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