

AI Ready ASEAN National Policy Roundtable #1:

Teaching for Tomorrow: Building Workforce Resilience in the Age of AI

- 1. How might Singapore strategically pivot from a narrow focus on deep-tech AI specialisation towards a holistic national model of domain-plus-AI fluency to secure the professional longevity of the mid-career workforce?*
- 2. As we navigate rapid AI-driven automation, in what ways must educational and regulatory frameworks evolve to ensure human agency, critical thinking, and ethical oversight remain the definitive pilots of the digital economy?*

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Executive Summary

The AI Ready ASEAN National Policy Roundtable, convened in Singapore in January 2026, addressed the structural economic shifts necessitated by the evolution of Artificial Intelligence from a specialised advantage into a fundamental "hygiene factor" for professional survival. While Singapore leads the region in AI adoption, a significant "readiness gap" persists, particularly within Small and Medium Enterprises (SMEs) hindered by poor data management and short-term revenue pressures. To secure long-term national resilience, Singapore must strategically pivot from a narrow focus on deep-tech specialisation towards a holistic model of domain-plus-AI fluency.

To address market demand, national policy must prioritise the cultivation of "Digitally Confident Adaptors"—professionals who possess the domain expertise to apply AI tools effectively within their specific fields. Labour policies should reflect that current AI technology is best suited for task augmentation rather than total job replacement. This requires a transition to "human-in-the-loop" environments where AI integrates into existing workstreams while human oversight ensures alignment with strategic objectives and ethical standards.

In the education sector, the focus must shift towards fostering AI-native graduates by institutionalising a pedagogical framework that balances technical proficiency with originality, critical thinking, and ethical responsibility. Beyond skill acquisition, the system must build psychological resilience, encouraging students to view AI as a partner rather than a threat. By immersing the future workforce in AI-augmented environments, collaboration with technology can be transformed from a disruptive effort into a standardised professional reflex.

A primary challenge remains for mid-career professionals with six to ten years of experience who face displacement risks as AI enables junior employees to produce senior-level outputs. These workers often suffer from professional self-doubt and time poverty, making traditional tech-heavy retraining ineffective. Workforce development must pivot towards domain-anchored pedagogy and micro-credentials that anchor AI instruction in established expertise. This facilitates the transitioning workers from task-doers to AI-supervisors, ensuring their mature judgement remains central to the digital economy.

Finally, the policy ecosystem must empower educators and infrastructure to prevent superficial integration. Private sector collaboration is essential to deploy Sectoral AI Starter Kits that automate administrative tasks, reclaiming time for high-value mentorship. Simultaneously, Singapore must continue investing in shared national utilities and foundational models to democratise high-performance AI access across the region. By aligning with international ethical benchmarks, Singapore can ensure technological value gains are distributed equitably, enhancing human expertise rather than concentrating productivity in a tech-heavy elite.

The Demand Side: Global Trends & Reality Check

From Global Signals to Local Reality

Global projections suggest that 86% of employers expect AI to reshape business operations by 2030, with Singapore leading adoption within Southeast Asia (1). However, a misalignment exists between these signals and regional reality. While 40% of professional skills face transformation or obsolescence by 2030 (2), only 10% of ASEAN roles are currently AI-complementary, a figure notably lower than the 30% seen in advanced economies (3). This disparity indicates an AI readiness gap where high enthusiasm masks low functional competency among a population where youths comprise one-third of the total (4).

In educational contexts, this gap persists due to a lack of structured learning pathways, governance frameworks, and institutional support. Small and Medium Enterprises (SMEs), which constitute 95% of Singapore's corporate landscape, face specific hurdles. The frequent absence of documented internal processes results in poor data management, hindering AI integration and preventing a return on investment (ROI) despite available government grants. Furthermore, SME leadership often prioritises immediate revenue over long-term strategic AI integration.

These systemic deficiencies have created a training paradox: over 50% of ASEAN educators and students use AI tools daily, yet most have never undergone formal training (4). This lack of structure, coupled with confidence that outpaced actual competency, increases vulnerability to misinformation and overreliance. Access to tools does not equate to workforce or institutional preparedness. Foundational AI literacy remains the primary requirement for workforce resilience; without addressing these structural gaps, the region faces the risks of job displacement and unrealised economic potential.

AI-Induced Displacement & Augmentation

The discourse surrounding AI-induced displacement and augmentation is complicated by a fundamental misunderstanding of AI architecture. Public dialogue conflates Generative AI (GenAI) with artificial intelligence, ignoring the diverse models and techniques involved. A constraint of GenAI is its reliance on public internet data, which isolates these models from proprietary corporate datasets.

Large-scale labour displacement remains contingent on the transition from specialised AI to Artificial General Intelligence (AGI). Tech industry leaders struggle to develop models capable of perceiving the world with human complexity across all senses. As AI remains confined to digital environments, physical tasks such as those requiring dexterity or safety management remain unaddressed.

Current limitations suggest the full potential of the technology has yet to be realised. The perceived threat of AI-driven displacement oversimplifies macroeconomic trends, such as geopolitical tensions, trade fragmentation, and policy recalibration. The decline in entry-level and white-collar recruitment reflects systemic rebalancing rather than direct AI integration.

Amidst labour market uncertainty, employers prioritise cost discipline and workforce optimisation. This results in a focus on internal redeployment and the realignment of human capital rather than a replacement of the workforce (5).

Catalytic Capital & Supporting Vulnerable Groups

Fast-moving market forces often create an unequal distribution of opportunities that resulted in the vulnerable groups disproportionately impacted (6). This disparity is exacerbated by the lengthy timelines required for public policy formulation, which often struggles to keep pace with the need to mitigate emerging risks and future-proof the workforce (7). Consequently, a deficit in catalytic capital—encompassing technical expertise and financial resources—has emerged. Philanthropic organisations and Non-Governmental Organisations (NGOs) are increasingly stepping into this vacuum, playing a more active role in supporting at-risk communities, startups, and Micro, Small, and Medium Enterprises (MSMEs) through agile, responsible, and sustainable interventions.

However, the durability of this impact remains in question due to the fragmented nature of current efforts. Isolated initiatives by technical experts, programmers, and policymakers often lack the cohesion necessary for long-term systemic change. Such a methodology remains insufficient; the scale of the AI transition is far too vast for any single entity or sector to address in isolation.

Case Study: Pak Dayat AI – Bridging the Agricultural Literacy Gap

The transformative potential of AI in traditional sectors is exemplified by Pak Dayat, an AI-driven agricultural assistant developed by the Edufarmers Foundation in partnership with Google.org. Designed specifically for smallholder farmers in Indonesia, the platform bypasses the need for specialised technical skills or data science proficiency. Instead, it utilises a generative AI chatbot accessible via WhatsApp—a familiar and low-friction interface (8).

The system empowers farmers to diagnose field issues in real-time through photo analysis and AI-driven diagnostics. By encouraging farmers to seek advice on best practices, pest management, and fertilisation through natural language conversation, the tool provides actionable, data-backed recommendations tailored to local conditions.

The impact of this low-barrier intervention is significant: by translating complex agricultural data into accessible insights, the initiative has enabled farmers to achieve yield increases of up to twofold. This success underscores a vital policy lesson: in traditional industries, the primary obstacle to AI adoption is often not a lack of interest, but the absence of intuitive interfaces that align with existing user habits. Pak Dayat serves as a blueprint for how AI can provide “catalytic expertise” to vulnerable or non-technical groups, driving immediate economic resilience.

Deep Tech Experts vs. Digitally Confident Adaptors

Competition for a limited pool of AI talent has created a chronic shortage, particularly as sectoral organisations across the economy vie for the same tech expertise. The cause is a lack of workforce readiness, where simply hiring more data scientists is no longer effective; the focus must shift to cultivating "Digitally Confident Adaptors" (9).

Transitioning from operational automation to transformational business models requires replacing legacy processes with human-in-the-loop environments. In this framework, AI integrates into workstreams while human oversight ensures alignment with strategic objectives. Crucially, AI creators and innovators require their solutions to be used by end-users to drive further innovation; without widespread adoption, tech innovation occurs for nothing.

A significant gap remains, however, as many individuals entering or currently in the workforce possess only foundational digital skills (10). Formal education and standardised training frequently overlook the applied use of technology within specific professional domains. This creates a divide between basic users and those who are truly AI-comfortable. Individuals with higher levels of AI engagement demonstrate the critical thinking necessary to the complex problem statements AI is intended to solve. This creates a "mindset paradox": while these adaptors are enthusiastic and ready to contribute, they frequently encounter friction when entering organisations that lack the structural readiness or culture to support their digital agility.

Disconnection between Displaced Workers & Hiring Requests

Structural misalignments persist between displaced workers and evolving hiring requirements. Those facing displacement frequently encounter a structural "skills gap," where legacy expertise fails to align with the technical and operational demands of an AI-driven economy. This friction is exacerbated by divergent expectations between employers and jobseekers regarding role requirements and compensation (10).

While industrial transformation occurs rapidly, the pace of workforce reskilling remains insufficient. For displaced personnel, transition involves shifting from traditional functions to AI-complementary roles, yet institutional readiness to facilitate this change is lacking. Failure to synchronise industry expectations will widen the divide between available talent and economic demand. Current difficulties in this transition stem from a lack of corporate capacity for job redesign. Trade associations and professional bodies must intervene to standardise task requirements within sectors, creating a knowledge base that informs technological deployment.

The current landscape represents a deficit in human-machine collaboration. Technological displacement maintains an advantage as automation is deployed immediately, whereas human capital development remains constrained by legacy educational models and unoptimised corporate workflows.

Recommended Actions

1. Strengthening Infrastructure and Organisational Readiness

- a. **Prioritise Long-Term Core Infrastructure:** Shift investment towards AI as foundational technology and data infrastructure to enable innovation at scale, moving away from isolated, short-term initiatives.
- b. **Formalise Internal Processes:** Organisations, particularly SMEs, must document internal processes to resolve poor data management and ensure AI integration achieves a measurable return on investment (ROI).

2. Evolving Workforce Skilling into Digital Agility

- a. **Balance Skilling with Scaling:** Funding should support both "Skilling for AI" and "Scaling with AI" across all job functions to ensure broad-based workforce resilience.

3. Redesigning Work for Human-Machine Collaboration

- a. **Develop Internal Job Redesign Capacity:** Corporations must build the capacity to redesign roles and realign human capital, facilitating the transition of displaced personnel into AI-complementary functions.
- b. **Synchronise Human Development with Automation:** Address the deficit in human-machine collaboration by modernising legacy educational models and corporate workflows to match the immediate speed of technological deployment.

4. Institutionalise Ecosystems and Trust

- a. **Establish Permanent Multi-Disciplinary Collaborations:** Institutionalise partnerships between technical experts and policymakers as the default model to move beyond isolated initiatives and create durable, population-level impact.
- b. **Sync Industry, Policy, and Education:** Facilitate real-time cooperation between Trade Associations and Chambers (TACs), government agencies, and employers to ensure educational curricula remain responsive to shifting market demands.
- c. **Engage Cultural Translators:** Use trusted community voices to address public anxieties and align AI with local aspirations through safe and relevant framing

Case Study: Long-Term Core Infrastructure (Google x AISG)

Google's investment in AI Singapore (AISG) shifts focus from fragmented projects to long-term core infrastructure. By providing Gemma open-source architecture, Google enabled AISG to develop SEA-LION as a foundational Large Language Model (LLM). This treats AI as an essential utility, establishing the necessary data and compute layer to drive regional innovation at scale (11).

This foundational approach triggered a multiplier effect across the digital economy, fostering a sovereign innovation ecosystem. Enterprises including NCS and GoTo Group utilise SEA-LION to build specialised applications like Sahabat-AI without prohibitive ground-up costs. Shared infrastructure democratises high-performance AI, moving the region from "AI Tourism" toward deep functional integration that reflects Southeast Asian linguistic and cultural contexts (12).

The Supply Side: The Foundations

Pre-Employment Training (PET) – Preparing the Students

For Singapore, a city-state with no natural resources, the national narrative is built on a singular truth: its people are its primary asset. Consequently, the workforce is the cornerstone of national sovereignty and global relevance. To maintain this edge, Singapore has mobilised its entire educational ecosystem to ensure the next generation is not just "tech-literate," but "AI-native."

Preparation of students for the labour market is a coordinated effort overseen by the Ministry of Education (MOE) and supported by SkillsFuture Singapore (SSG), the statutory board dedicated to lifelong learning and skills mastery. The delivery is conducted through a network of Institutes of Higher Learning (IHLs): Autonomous Universities (AUs), polytechnics, Institute of Technical Education (ITE).

Current integration of AI across these institutions is a mandate of the National AI Strategy (NAIS) 2.0 (13). This strategy recognises that AI proficiency is transitioning from a specialised advantage to a "hygiene factor"—a baseline requirement for professional survival across all sectors.

Democratising AI Literacy

The effort to democratise AI literacy creates a strategic intersection between technical capability and humanistic skills. By integrating AI as a foundational requirement across all disciplines, the framework attempts to balance proficiency with critical thinking and ethical responsibility. This structure intends to position students as active agents of innovation, yet it necessitates a rigid pedagogical alignment across four pillars: learning about AI, using AI, collaborating with AI (14), and pursuing advanced applications through specialised certificates.

Students seeking deeper mastery can pursue available elective pathways developed with industry leaders that are designed to ensure curricula remain aligned with real-world hiring demands. The objective is to empower students to harness AI while maintaining confident and be professionally relevant. Regardless of the discipline, the focus remains on:

- Originality: Ensuring the core concept is human-driven.
- Critical Thinking: Evaluating the accuracy and ethical implications of AI outputs.
- Practical Innovation: Using AI to solve complex, real-world problems.

Operational and Power Use: Human-Led AI Integration

Applied AI faces challenges in value realisation when not tailored to specific disciplines, which risks creating fragility or overwhelming students with technical complexity. For the non-coding

majority, the current gap lies in the shift from writing code to understanding the AI backbone and validating outcomes. Integration follows two paths: operational use, concerning responsible deployment and ethics; and power use, involving tool configuration and workflow automation.

This approach remains contingent on governance and ethical frameworks. By understanding AI capabilities and their underlying functions, individuals maintain oversight and "trust calibration." This ensures humans remain the primary drivers of strategic intent and final decision-making, safeguarding human rights and dignity throughout the technological transition. In practice, company and workforce transformation must occur in tandem by identifying internal champions and pushing for co-developed solutions, so AI does not remain a black box to staff. Only after companies witness specific success through training and project ROI does the appetite for further AI digitalisation expand.

Fostering Psychological Resilience

Developing psychological resilience shifts focus from perceived threats to empowerment by fostering the psychological resilience required for AI collaboration. The objective is to institutionalise human-machine synergy as the standard professional state, ensuring the workforce competes with AI rather than against it. This transition necessitates psychological readiness beyond basic technical training.

Resistance often originates from perceived complexity. Fostering confidence through low-friction adoption requires simplifying AI interactions via intuitive interfaces and transparent outcomes. Resilience is achieved when adaptation ceases to be a conscious effort. The workforce must be immersed in AI-augmented environments until collaboration becomes a reflex. Transitioning AI from a disruptive tool to a partner requires standardising this relationship into a repeatable workflow.

Recommended Actions

1. Governance and Standardisation

- a. Establish "Human-in-the-Loop" as Default: Institutionalise "Human-in-the-Loop" as the standard setting to ensure humans remain the "pilots" who retain final decision-making authority and oversight.
- b. Align with Global ISO Standards: Ensure Human-Machine Teaming (HMT) is grounded in international frameworks to maintain ethical, sector-specific integration.
- c. Calibrate Trust through Transparency: Utilise governance frameworks to help the workforce understand AI's underlying functions, ensuring they can validate outcomes rather than treating AI as a "black box".

2. Operational Talent and Scaling

- a. Cultivate "AI Translators": Develop a specialised tier of power users trained in no-code and low-code platforms to bridge the gap between business needs and sophisticated workflow automation.
- b. Deploy Internal Champions: Identify advocates within organisations to lead the co-development of AI solutions, ensuring the technology is tailored to specific departmental needs.
- c. Evidence-Based Digitalisation: Scale AI adoption only after achieving specific success through training and demonstrating a clear project Return on Investment (ROI).

3. Psychological Resilience and Cultural Shift

- a. Redefine the Professional Narrative: Shift the workforce mindset from "replacement" to "augmentation," framing AI as a tool for repetitive tasks that frees humans for higher-order judgment.
- b. Build Psychological Resilience: Focus on psychological resilience to prepare staff for human-machine synergy, helping them view AI as an empowering partner rather than a threat.
- c. Foster Immersion-Based Reflex: Create AI-augmented environments where collaboration with technology becomes a reflex and a repeatable, standardised workflow.
- d. Simplify the Adoption Path: Lower the friction of adoption by utilising intuitive interfaces and ensuring outcomes are transparent and easy to understand.

4. Pedagogical Refinement

- a. Ground Training in Discipline-Specific Contexts: Ensure AI instruction is tailored to specific fields so that students see it as a way to strengthen, not replace, their core creative skills.
- b. Balance Simplification with Rigour: Embed AI into educational modules by streamlining technology usage while maintaining high academic standards.

The Supply Side: The “Missing Middle”

Continuous Education Training (CET) – Mid Careers and Adult Learners

While PET secures the future, Singapore’s economy cannot wait for the next generation. The “Missing Middle”—mid-career professionals—faces immediate displacement risk and requires urgent reskilling and upskilling. Professionals with 6–10 years of experience occupy a vulnerable “neither here nor there” position (15). AI allows junior employees to produce outputs rivalling senior counterparts, compressing the value of traditional “years of experience.” In output-heavy roles, mid-career workers risk being “leapfrogged” by AI-augmented juniors as the seniority gap narrows.

Barriers to reskilling are compounded by non-AI-native backgrounds and personal responsibilities. These factors create time poverty, rendering standard training models inaccessible. Individual initiative is restricted by displacement fears and limited bandwidth, placing the onus on companies to lead adoption. Strategic pivots must integrate on-the-job micro-learning into workflows, focusing on domain-centric upskilling to scale output.

Transitioning workers from task-doers to AI-supervisors ensures human judgment remains central to operations. Synchronising mid-career experience with AI is vital to prevent sidelining seasoned practitioners precisely when the economy requires their domain-specific expertise most. Within this evolving landscape, there is a growing opportunity for a new type of worker, such as “fractional workers,” where experienced professionals can use their domain expertise to fulfil new job descriptions.

Moving from “AI Tourism” to Fluency

Conflicting messaging from government bodies, trade associations, and employers has resulted in a fragmented narrative, leading to widespread “wait-and-see” paralysis across the workforce. Although interest in AI is high, this is frequently offset by a sense of helplessness. Workers increasingly recognise that superficial competencies, such as basic prompting, fail to provide long-term livelihood security. The transition from “AI tourism”—characterised by casual, surface-level engagement—to “AI fluency” remains the primary obstacle for the non-technical workforce.

The evolution of Generative and Agentic AI has shifted the risk of displacement toward the knowledge worker class, affecting traditionally stable sectors such as legal and finance. This shift has created a psychological block; employees remain hesitant because they lack clear indicators of how their specific roles will be restructured. Furthermore, corporate unreadiness has resulted in a failure to provide the direction necessary for employees to adapt. Without a clear roadmap, the workforce has adopted a defensive posture to protect existing livelihoods rather than evolving them.

For professionals with six to ten years of experience, traditional tech-heavy retraining is often counterproductive and threatens professional identity. Training frameworks must pivot to a domain-first model where technical skills are secondary to established expertise. By anchoring

technology within specific fields, AI serves the domain rather than replacing it. This integrated approach allows mid-career professionals to build upon their existing strengths, providing a relatable and relevant path toward fluency that bypasses current market noise.

Speed vs. Digestibility (Micro-credentials)

Singapore's IHLs are pivoting toward "plus-skilling"—a model of agility and bite-sized mastery designed to match industry speed. While the "plus-skilling" model aims for agility, the reliance on educators as dual professionals creates pressure on academic staff to maintain simultaneous currency in both industry practice and pedagogical delivery. This institutionalised co-development of curricula with industry partners ensures early validation of competencies.

For adult learners experiencing time poverty, the focus on bite-sized competencies allows for skill acquisition without withdrawing from the workforce. However, the modularisation of education into stackable pathways may fragment the learning experience, potentially prioritising functional task completion over holistic understanding. This fit-for-purpose approach prioritises immediate fluency, yet it remains unclear if such a granular model can sustain the comprehensive intellectual development necessary for long-term resilience against AI evolution.

Hiring Rates of Upskilled Workers

AI integration reveals a dual-force reality: while upskilling is demonstrably positive, mature workers face persistent systemic barriers. Even with new competencies, the "Missing Middle" encounters biases that hinder re-employment and career progression.

Employers frequently maintain reservations regarding the agility of mature professionals relative to younger cohorts. This scepticism often centres on the perceived speed of adaptation to emerging tools, regardless of a worker's actual technical proficiency. These external perceptions can lead to internalised doubt, where experienced staff question their relevance despite possessing significant domain expertise.

Improving re-employment outcomes necessitates a shift in how the industry evaluates experience within automated workflows through:

- Worker Empowerment: Building "AI Confidence" to help workers communicate how their domain experience scales through technology.
- Corporate Mindset Shift: Moving beyond the assumption that youth equate to higher productivity. Highlighting that mature expertise paired with AI fluency offers strategic judgment and "trust calibration" that raw technical skill lacks.

Mismatch between Resilience Requested & Candidates Available

Business needs and candidate skills are mismatched due to a gap between tactical AI usage and strategic logic. While businesses demand resilience in AI governance and risk, the talent pool is divided: tool-proficient but context-poor juniors, and seniors with deep expertise overwhelmed by the pace of change. This disparity triggers "confidence rot" as technological evolution outpaces mastery.

Upskilling initiatives require a transition to a "logic-first" framework prioritising domain-anchored application over tool-centric training. Leveraging senior expertise in governance—a discipline where foundational experience remains a competitive advantage over technical nativity—addresses the "missing middle." Shifting focus toward strategic integration rather than tactical usage allows the workforce to move beyond defensive hesitation toward active AI adoption.

Recommended Actions

The primary barrier for mid-career professionals is fear and a lack of confidence. While "time poverty" is a logistical hurdle, a psychological block drives "wait-and-see" paralysis. Displacement fears and professional identity erosion prevent workers from moving beyond surface-level "AI tourism" into genuine fluency. Without addressing this "confidence rot," technical curricula fail to produce resilient, AI-augmented leaders.

To overcome these barriers, the following strategic actions can be integrated:

1. **Domain-Anchored Pedagogy:** Training frameworks must pivot to a domain-first model where technical skills are secondary to established expertise. Anchor technology within specific fields so AI serves the domain rather than replacing it.
2. **Fractional Work Models:** Formalise roles for "fractional workers" where experienced professionals use domain expertise to fulfil new job descriptions.
3. **Confidence and Narrative Alignment:** Build "AI Confidence" to help workers communicate how domain experience scales through technology. Addressing the cognitive and emotional barriers to adoption will resolve the fragmented narrative from government bodies and employers that causes "wait-and-see" paralysis. Provide clear roadmaps and indicators of how roles will be restructured to remove defensive postures.

The Ecosystem: Empowering the Enablers

Policy, Regional Standards, and Educator Support

Singapore's AI transition faces the risk of "hollow adoption"—implementing technology without human-centred purpose. Educators, tasked with transitioning from "know-all" authorities to AI-augmented facilitators under Higher-Ability Learner (HAL) provisions, often struggle to bridge the gap between market volatility and classroom reality. Without anchoring technology in pedagogical depth, knowledge diffusion remains superficial and lacks domain-specific impact.

Structural weaknesses in upskilling frameworks impede the transition from training to employment. While 21st Century Competencies (21CC) emphasise critical thinking (16), translating these traits into technological resilience is inconsistent.

Policy interventions lack the continuity to sustain capability. Although funding is accessible, high staff turnover within Small and Medium Enterprises (SMEs) causes firms to revert to previous workflows when trained personnel exit. Job redesign initiatives lack the technical granularity to ensure AI remains a permanent component of business models. Without addressing these structural deficits, AI integration risks remaining a temporary adjustment rather than a fundamental economic shift.

Private Sector Role in Empowering Educators/Pedagogy

Private sector empowerment must shift from tool provision to pedagogical partnership. Administrative drudgery, complex procurement, and chronic burnout—affecting 52% of K-12 and more than 30% of Higher Education staff (17)—are the primary barriers. Simplifying tools and procurement returns time to educators, moving them from technical troubleshooting to high-value instruction.

Standard certifications remain ineffective as educators prioritise immediate project requirements over long-form upskilling. Industry must shift toward modular, low-cost programmes and centralised platforms that emphasise functional utility. This necessitates a move away from revenue-centric models in favour of accessible programmes and formal recognition of the educator's role in the AI transition.

To establish pedagogical confidence, AI integration must be positioned as a means to reduce rather than increase workload. Implementation of "Starter Kits" to automate administrative tasks enables educators to prioritise mentorship. Such a framework ensures that AI adoption supports professional judgement and student outcomes through simplified deployment.

Bridging the ASEAN Digital Divide

ASEAN's digital divide persists through inclusivity gaps between major hubs and remote regions. Knowledge diffusion via local partnerships remains insufficient without government intervention to align national infrastructure with educational needs. Without platforms like AI

Ready ASEAN to synchronise policy, fragmented efforts risk marginalising regional talent pools.

Systemic friction occurs when infrastructure readiness lags behind individual literacy. Inefficient procurement and unsupportive school systems categorise AI as a professional burden for educators, who may perceive the technology as an unsustainable workload addition rather than a support tool. Policy must focus on infrastructure that integrates AI to mitigate professional burnout.

Diverging MSME priorities further fragment regional strategy. While Singapore focuses on data management and ethical use, other ASEAN nations prioritise basic operational support. This disparity prevents consistent AI fluency benchmarks. Failure to harmonise these priorities through partnerships and policy will widen the regional talent gap and hinder collective growth.

Alignment with International Ethical Benchmarks

Alignment with international benchmarks—human oversight, transparency, fairness, accountability, safety, and inclusion—requires translating these principles into tangible deployment (18). While Singapore leads in infrastructure through optimised user interface and experience for educators, the ecosystem must mitigate distributional effects where "superstar firms" capture the "AI dividend." Without intervention, productivity gains concentrate in capital-rich firms capable of bespoke systems, widening economic disparities. Embedding ethics at system and workflow levels is necessary to prevent technological mastery from becoming a barrier to market profitability.

Government oversight monitors labour market shifts and ensures transparency in AI-driven hiring and performance management. Implementations must prioritise skill enhancement and career progression rather than displacing human judgement. Enabling workers to challenge AI outputs preserves professional agency and ensures technological integration strengthens individual expertise. This approach democratises strategic AI logic, allowing the broader workforce to leverage domain-specific knowledge through augmentation rather than being sidelined by tech-heavy incumbents.

Achieving these objectives depends on multi-agency execution that minimises administrative friction to prioritise outcomes. Public-private partnerships are needed to navigate rapid AI evolution while maintaining ethical standards. By leveraging these networks, Singapore must ensure regulatory and educational frameworks remain responsive to labour market requirements, developing a talent pool capable of functional integration.

Recommended Actions

To prevent the risk of hollow adoption and ensure a fundamental economic shift, Singapore's AI transition must be anchored in structural reform and educator resilience. By strengthening the enablers and harmonising regional standards, the national 'AI dividend' can be distributed

equitably, ensuring that technological integration enhances human expertise rather than concentrating productivity in a tech-heavy elite.

1. **Streamline Adoption and Time Recovery:** Fast-track procurement for safety-cleared tools and provide low-code Sectoral AI Starter Kits to automate administrative tasks like grading, reclaiming educator time for strategic mentorship.
2. **Bridge Regional and Socioeconomic Gaps:** Utilise harmonised literacy benchmarks across underserved communities.
3. **Ensure Functional Expertise:** Train the workforce to critically challenge AI outputs through inclusive job design, ensuring technological integration enhances rather than replaces human expertise.

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