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AI Workforce Readiness in Six ASEAN Countries: A Qualitative Comparative Document Analysis

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ABSTRACT

Artificial intelligence (AI) is changing task bundles and skill requirements, but policy documents cannot by themselves establish workforce readiness or programme effects. This study examines how policy architectures frame and make delivery mechanisms visible across Indonesia, Malaysia, the Philippines, Singapore, Thailand, Viet Nam, and ASEAN regional instruments. A bounded corpus of 14 official policy, implementation, and intergovernmental documents published from 2020 to 2025 was verified on 29 August 2026. Three analytical reports in the submitted corpus were reclassified as contextual literature rather than coded evidence. Directed qualitative content analysis, supported by the Framework Method and an item-level audit matrix, compared access, curriculum, coordination, and monitoring. Four documentary patterns were identified: AI is framed as reconfiguring task bundles rather than uniformly replacing work; foundational access conditions participation in advanced AI learning; curriculum agility depends on educator capability and labour-market feedback; and coordination plus monitoring make alignment between strategy and delivery more visible. The six cases share the language of talent, skills, and collaboration, but differ in the documentary visibility of delivery pathways and outcome reporting. The study proposes alignment capacity as a provisional meso-level framework comprising access, curriculum, coordination, and accountability alignment. The findings concern documentary framing and visible policy architecture—not actual national readiness, implementation fidelity, or worker outcomes—and require validation with primary and longitudinal data.

Keywords: alignment capacity; workforce development; ASEAN; AI literacy; comparative document analysis

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INTRODUCTION

Recent advances in artificial intelligence have intensified debate about the future of work, yet the strongest available evidence does not support a single deterministic trajectory in which machines simply replace human labour. AI operates at the level of tasks and work processes: it can automate some activities, augment others, and create new coordination and verification work. Effects vary by occupation, technology, organisational choices, and worker capability (Acemoglu et al., 2022; Georgieff & Hyee, 2022; Raisch & Krakowski, 2021). Experimental and field studies of

generative AI likewise report productivity gains in bounded knowledge-work settings, often with heterogeneous benefits, rather than economy-wide proof of uniform job loss (Brynjolfsson et al., 2025; Noy & Zhang, 2023). The policy problem is therefore how institutions prepare people to perform changing task bundles safely, productively, and equitably.

This problem is especially consequential in Southeast Asia. The six cases examined here include global technology and services hubs, manufacturing centres, large informal sectors, and geographically dispersed populations. Employers seek digital and complementary capabilities, including communication, problem solving, management, and socio-emotional skills (Cunningham et al., 2022). Access to devices, connectivity, quality training, and recognised credentials nevertheless remains uneven. Aggregate claims that one country is simply 'ready' and another 'unready' are therefore weak unless readiness is defined by dimension, linked to observable mechanisms, and separated from outcomes that documents cannot verify.

In this study, AI workforce readiness is treated as an institutional problem rather than a national score. It concerns whether a policy system visibly connects changing occupational tasks to inclusive learning pathways, responsive curricula, coordinated delivery, and outcome feedback. A strategy may announce ambitious talent targets while giving limited information about financing, educator preparation, rural access, or evaluation. Conversely, a broad digital-skills programme may provide implementation infrastructure even when it is not labelled as an AI programme. The analytical focus is thus policy architecture and documentary visibility, not a direct measure of workers' capabilities or policy effectiveness.

Existing research provides important but fragmented evidence. Labour-market studies identify rising demand for AI and complementary skills (Alekseeva et al., 2021; Cunningham et al., 2022), organisational research emphasises reskilling, employee agency, and change readiness (Babashahi et al., 2024; Jaiswal et al., 2022; Morandini et al., 2023; Suseno et al., 2022), and education research defines AI literacy as knowledge, use, critical evaluation, ethical judgement, and human-centred decision making (Almatrafi et al., 2024; Cetindamar et al., 2024; Laupichler et al., 2022; Ng et al., 2021). These literatures explain why skills systems matter but do not show how selected ASEAN policy architectures connect access, curriculum, coordination, and accountability.

ASEAN-focused studies further illustrate this fragmentation. Research on marginal workers documents socially distributed digital-skills barriers (Intaratat, 2022); reviews identify technical and non-technical employee competencies without tracing them through national delivery systems (Baki et al., 2023); and country studies examine workforce gaps, perceived employability, or employer priorities (Gayatri et al., 2023; Kee et al., 2023; Weerasombat & Pumipatyothin, 2025). The Asian Development Bank (2021), Cunningham et al. (2022), and World Economic Forum (2025) provide useful analytical context, but they are not national policy instruments. The present study therefore narrows its claim: it compares a bounded set of official documents using the same institutional dimensions.

Regional instruments articulate a shared baseline. The ASEAN Digital Masterplan 2025 and the Declaration on the Digital Transformation of Education Systems call for inclusion, educator capability, transferable skills, partnerships, and monitoring (ASEAN Secretariat, 2021, 2022). The ASEAN Guide on AI Governance and Ethics adds organisational governance and monitoring principles (ASEAN Secretariat, 2024), and the Bangkok Digital Declaration renews attention to digital talent and inclusive transformation (ASEAN Digital Ministers, 2025). Agreement at the level of principles, however, does not reveal whether national documents specify usable delivery pathways or public outcome evidence.

Alignment capacity sits alongside but is not synonymous with five neighbouring concepts. Policy coherence concerns consistency among policy objectives and instruments across sectors (OECD,

2019). Skills-ecosystem research examines interdependent firms, providers, institutions, and labour-market practices that produce and use skills (Buchanan et al., 2017; Finegold, 1999). Institutional complementarity and alignment describe broader fit among institutions (Hall & Soskice, 2001). Dynamic capabilities concern how firms sense, seize, and reconfigure resources under change (Teece et al., 1997). Boundary objects explain how shared artefacts can coordinate actors who retain different perspectives (Star & Griesemer, 1989). Each illuminates part of the policy problem, but none alone specifies how AI-related task signals are translated into inclusive curricula, delivered across public and private institutions, and revised using workforce outcomes.

The proposed construct is therefore bounded as a provisional meso-level framework for AI workforce policy. Alignment capacity is the observable ability of a policy system to connect four functions: access alignment (entry into learning), curriculum alignment (translation of changing tasks into assessable outcomes), coordination alignment (roles, financing, shared terminology, and feedback), and accountability alignment (learning, transition, and equity evidence). It does not denote an individual competence, an economy-wide readiness score, or a demonstrated causal effect. The expected relationship is iterative: task-change signals inform curriculum translation; coordinated institutions deliver learning; outcome evidence revises tasks, curricula, and delivery. Shared task profiles, skills taxonomies, credential standards, and dashboards may serve as boundary objects across these functions.

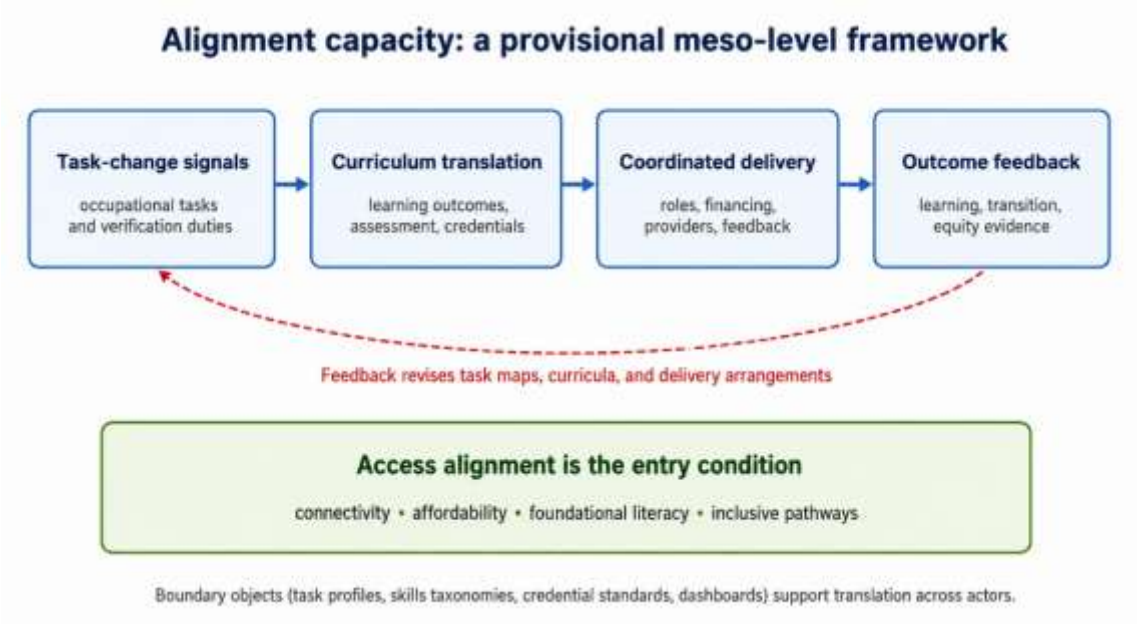


Figure 1. Provisional alignment-capacity framework

Note. The arrows indicate proposed analytical relationships, not validated causal effects.

The study asks: How do selected national and regional policy documents frame and operationalise AI workforce readiness in Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Viet Nam, and what cross-case patterns distinguish policy ambition from visible delivery mechanisms? It does not rank countries. Its contribution is an auditable comparison of documentary evidence and a provisional framework that can later be tested with primary and longitudinal data.

METHOD

Research design and case selection

The study used qualitative comparative document analysis. Documents were treated as institutional records that define problems, allocate responsibilities, and make some mechanisms more visible than others, not as neutral evidence that implementation occurred (Bowen, 2009). The procedure followed the READ approach ready materials, extract data, analyse data, and distil findings (Dalglish et al., 2020). The analytical strategy was directed qualitative content analysis (Hsieh & Shannon, 2005), followed by Framework Method matrices for systematic within- and cross-case comparison (Gale et al., 2013). This design is compatible with a stable codebook and explicit matrix cells; the manuscript no longer characterises the procedure as reflexive thematic analysis.

The six national cases were selected through criterion-based purposive sampling, not maximum-variation scoring. A case entered the bounded comparison when the search identified, by the 31 December 2025 publication cutoff, an official national AI strategy or roadmap available in English or an authorised English version and containing substantive education, training, workforce, or talent material. A companion implementation or assessment document was included when it illuminated delivery, but a companion was not required. The six cases vary in scale and institutions, but those differences characterise the sample rather than constitute a formal selection metric. Other ASEAN settings are outside the comparison because no document meeting all criteria was identified under the reported English-language search. This is a bounded comparison, not a census of ASEAN policy.

Search, screening, and document corpus

The policy-document search was re-run and all included links were checked on 29 August 2026. Sources were official ASEAN pages; official national science, digital, economic-planning, and programme portals; UNESCO UNESDOC; and targeted web searches restricted to those domains. Search strings combined each country or ASEAN with ‘artificial intelligence’ AND (‘strategy’ OR ‘roadmap’ OR ‘education’ OR ‘skills’ OR ‘workforce’ OR ‘training’) and ‘digital transformation’ AND (‘skills’ OR ‘education’ OR ‘workforce’). The cutoff remained 31 December 2025 to preserve a completed observation window aligned with the ASEAN Digital Masterplan 2025; 2026 activity was used only to verify links, issuers, and versions.

Documents were included when they had an identifiable governmental, ASEAN, or intergovernmental issuer; fell within 2020–2025; were publicly accessible in English or an authorised English version; and contained substantive material relevant to the research question. Announcements, commentary, commercial rankings, duplicate versions, and sources without an identifiable issuer were excluded. The most recent complete official version within the cutoff was retained. A digital strategy portal was counted as one publication, not as multiple ‘launch materials’. The submitted candidate set contained 17 items. Screening reclassified three analytical reports—the Asian Development Bank Industry 4.0 report, the World Bank working paper by Cunningham et al., and the World Economic Forum report—as contextual literature. Fourteen official policy, implementation, or intergovernmental documents remained in the coded corpus (Table 1). The item-level search and screening log, direct links, codebook, and evidence matrix are supplied in Supplementary Material S1–S4.

Table 1. Coded document corpus and analytical function

ID	Exact title and issuer	Genre	Scope	Analytical role
D01	ASEAN Digital Masterplan 2025 (ASEAN Secretariat, 2021)	Regional strategy	ASEAN	Coded baseline
D02	Declaration on the Digital Transformation of Education Systems in ASEAN (ASEAN Secretariat, 2022)	Regional declaration	ASEAN	Coded baseline

D03	ASEAN Guide on AI Governance and Ethics (ASEAN Secretariat, 2024)	Regional guide	ASEAN	Coded baseline
D04	Bangkok Digital Declaration (ASEAN Digital Ministers, 2025)	Regional declaration	ASEAN	Coded baseline
D05	National AI Strategy 2.0 (Smart Nation Singapore, 2023)	National strategy	Singapore	Coded case document
D06	Annual Report 2023/24 (SkillsFuture Singapore, 2024)	Implementation report	Singapore	Coded companion
D07	National Artificial Intelligence Roadmap 2021–2025 (MOSTI, 2021)	National roadmap	Malaysia	Coded case document
D08	Malaysia Digital Economy Blueprint (Economic Planning Unit, 2021)	Digital-economy blueprint	Malaysia	Coded companion
D09	Strategi Nasional Kecerdasan Artifisial Indonesia 2020–2045 (BPPT, 2020)	National strategy	Indonesia	Coded case document
D10	Program Kartu Prakerja Management Report Book 2022 (Kartu Prakerja Program Management, 2023)	Implementation report	Indonesia	Coded companion
D11	National AI Strategy Roadmap 2.0 (Department of Trade and Industry, 2024)	Official strategy portal	Philippines	Coded case document
D12	Thailand National AI Strategy and Action Plan (2022–2027) (National AI Committee, 2022)	National strategy	Thailand	Coded case document
D13	Thailand: Artificial Intelligence Readiness Assessment Report (UNESCO, 2025)	Intergovernmental assessment	Thailand	Coded companion
D14	Decision No. 127/QD-TTg: National Strategy on Research, Development and Application of AI through 2030 (Prime Minister of Viet Nam, 2021)	National decision	Viet Nam	Coded case document

Note. D15–D17 from the submitted manuscript are retained as contextual literature, not coded documents. Full links and screening decisions appear in Supplementary Material S1–S2.

Extraction, coding, and cross-case analysis

A structured extraction matrix recorded document ID, issuer, year, genre, geographic level, stated problem, target groups, skills and education mechanisms, implementation actors, access provisions, monitoring language, and page or section locators. The initial codebook used nine directed categories derived from the research question and adjacent theory: task change; skills; access; curriculum; educator or trainer capacity; coordination; communication and boundary objects; governance; and monitoring. A second cycle consolidated patterned relationships while preserving source locators and negative cases. For example, connectivity, affordability, foundational literacy, and marginalised learners were grouped as access conditions; employer feedback, skills taxonomies, and update cycles were grouped as curriculum translation.

The unit of coding was a meaning-bearing passage a sentence, paragraph, table entry, or portal section—rather than an entire document. A ‘document group’ denotes regional policy or normative instruments, national AI strategies or roadmaps, and implementation or assessment documents. A theme was retained when it addressed the research question and appeared in at least three national cases or in at least two national cases plus one regional document. Deviant evidence was then sought for every retained theme. The audit matrix labels explicit documentary statements (E), analytical inferences (I), and evidence gaps or negative cases (G). Short representative excerpts and page or section locators appear in the supplement.

The country not the number of documents was the cross-case analytic unit. Each country contributed one matrix entry per comparison dimension, and no frequency weighting was applied. Companion documents supplied implementation detail but did not give two-document cases greater analytical weight. Claims about the Philippines and Viet Nam are explicitly qualified

because each has one coded national source; differences in genre are preserved in Table 1 rather than treated as equivalent observations.

One researcher conducted the manual coding and maintained a reflexive memo recording interpretive decisions, boundary changes, and deviant cases. A stable codebook and transparent matrices support dependability but do not eliminate single-researcher interpretation. No inter-coder reliability claim is made. Public documents involved no human participants or personal data. Trustworthiness rests on an item-level audit trail, explicit E/I/G labels, exact document identifiers, and separation of documentary statement from inference and recommendation.

RESULTS

Four cross-case patterns met the retention rule. They describe documentary framing and visible implementation mechanisms rather than verified readiness or programme impact. Table 2 traces every theme to document IDs and distinguishes explicit statements (E), analytical inference (I), and gaps or deviant evidence (G).

Table 2. Evidence-to-theme audit trail

Theme	Explicit documentary statement (E)	Analytical inference (I)	Gap or negative case (G)
1. Task reconfiguration	E: National strategies connect AI adoption to sectoral capabilities, talent, and changing work (D05, pp. 40–42; D07; D09; D11, 'Workforce Development'; D12, pp. 8, 12; D14, Section II.2[b]).	I: Readiness is better examined through occupational task bundles and verification duties than through a uniform replacement forecast.	G: Broad implementation reports do not directly establish AI-related displacement or augmentation (D06, D10). No coded document supplies comparable task-level outcome data.
2. Access as condition	E: Regional documents identify connectivity, affordability, teacher support, inclusion, and digital skills (D01, p. 6; D02, pp. 2–4; D04, pp. 1, 4). Delivery infrastructure is visible in D06 (pp. 2–5) and D10 (2022 reporting period).	I: Advanced AI literacy presupposes foundational digital access and a usable route into learning.	G: Advanced-talent language is more visible than foundational access in several national AI strategies (D05, D07, D11, D14). Participation and transition outcomes are not comparable.
3. Curriculum agility	E: D02 specifies teacher development, assessment, repositories, and monitoring (pp. 2–4). National documents identify education, talent, or industry links (D05, D07, D09, D11, D12, D14).	I: Curriculum agility depends on recurring labour-market translation and educator capability, not simply the addition of an 'AI' module.	G: D12 sets talent goals but gives limited detail on recurring curriculum-refresh cycles; D14 gives training ambitions but limited employer-feedback architecture.
4. Alignment capacity	E: Coordination and governance responsibilities appear across D01–D05, D07–D09, and D11–D14. D06 reports feedback and outcome-oriented implementation mechanisms (pp. 2–5).	I: Shared task profiles, taxonomies, credential standards, and dashboards can function as boundary objects linking strategy to delivery.	G: Publicly comparable learning, employment-transition, and equity outcomes are sparse. Absence of reporting is treated as an evidence limit, not evidence of programme failure.

Note. Page and section locators refer to the versions listed in Supplementary Material S2. Extended evidence excerpts are provided in S4.

Theme 1: AI policy frames task reconfiguration more clearly than uniform replacement

Across the national strategies, AI adoption is connected to sectoral development, specialist talent, organisational capability, and workforce transition (D05, D07, D09, D11, D12, D14). Singapore's strategy links sector-specific workforce initiatives to Jobs Transformation Maps (D05, pp. 40–42), Thailand places human-capability development and AI education within the national action plan (D12, pp. 8, 12), and the Philippines portal identifies 'Workforce Development' as a strategic component (D11). These are explicit policy framings; they do not measure realised task change.

When compared across cases, the unit implied by the documents is a sector- and occupation-specific task bundle rather than a uniform category of jobs. This is an analytical inference from the diversity of sectoral, talent, and training provisions, not a documentary forecast. D06 and D10 are important negative cases: they describe broad learning and programme infrastructure but do not directly attribute displacement or augmentation to AI. No coded document supplies comparable task-level labour outcomes. The theme is therefore limited to how strategies frame workforce adaptation.

Theme 2: Foundational access is a conditioning mechanism, but it is unevenly explicit

Regional instruments provide the clearest explicit statements on access. D01 identifies digital-skills, affordability, content, and connectivity barriers (p. 6); D02 links digital transformation to educator development, resources, monitoring, and inclusion (pp. 2–4); and D04 reiterates digital skills, talent, and inclusive transformation (pp. 1, 4). National implementation infrastructure is visible in Singapore's lifelong-learning report (D06, pp. 2–5) and Indonesia's 2022 Kartu Prakerja report (D10). These documents show delivery arrangements, not proof of equal participation or employment effects.

The cross-document inference is that advanced AI learning requires a usable entry pathway: foundational digital and data literacy, connectivity, affordable participation, and time and support to learn. This mechanism is not equally visible across the national AI strategies. D05, D07, D11, and D14 place greater documentary emphasis on talent, innovation, or advanced capability than on the access conditions of marginal workers. The negative evidence qualifies the claim: access conditions the proposed framework, but the national AI corpus does not consistently operationalise it.

Theme 3: Curriculum agility depends on educator capability and recurrent labour-market translation

D02 provides the most explicit regional articulation of teacher development, learner-centred practice, assessment, repositories, partnerships, and monitoring (pp. 2–4). National documents refer to education, talent development, institutional capability, or industry links (D05, D07, D09, D11, D12, D14). The documentary pattern is broad agreement that human capability matters; the visible mechanisms for recurrent curriculum updating are less consistent.

The analytical inference is that curriculum agility requires repeated translation from changing occupational tasks into learning outcomes, assessment, and credentials, together with educators able to teach and evaluate them. D12 is a deviant case in form: it specifies talent goals but gives limited detail on recurring curriculum-review cycles. D14 states education and training ambitions but offers limited visible architecture for continuous employer feedback. The corpus therefore supports curriculum agility as a diagnostic question, not as an established national capability.

Theme 4: Coordination and outcome feedback make alignment capacity visible

Responsibilities are distributed across ministries, education providers, firms, and other actors in the regional and national documents (D01–D05, D07–D09, D11–D14). D03 makes governance roles, stakeholder communication, training, and monitoring explicit (pp. 17–20, 38–40). D06 reports feedback and outcome-oriented elements within an established skills-delivery system (pp.

2–5). The presence of multiple actors, however, is an explicit structural feature rather than evidence that coordination succeeds.

Across cases, coordination appears more operational when documents identify ownership, delivery institutions, a shared vocabulary, and feedback channels. The use of task profiles, skills taxonomies, credential standards, or dashboards as boundary objects is an analytical proposition derived from the comparison. The common gap is publicly comparable evidence linking inputs and participation to demonstrated learning, occupational transition, and equity. The absence of public evidence is recorded as a limit on inference, not as proof of programme failure.

Systematic comparison of the six cases

Table 3. Country-level comparison using common dimensions

Case	Access	Tasks/curriculum	Coordination/delivery	Monitoring and evidence limit
Singapore	E: Broad lifelong-learning access and adult-learning infrastructure (D06, pp. 2–5).	E: Sector-specific AI workforce initiatives and Jobs Transformation Maps (D05, pp. 40–42).	I: National AI ambition has a visible delivery bridge through SkillsFuture (D05–D06).	G: The selected texts do not provide a complete, comparable causal estimate of AI-related job transitions (D05–D06).
Malaysia	E: Digital inclusion and talent feature in the national digital blueprint (D08).	E: AI roadmap identifies talent and ecosystem development (D07).	I: Two plans create breadth, while delivery depends on cross-plan ownership and translation (D07–D08).	G: Public outcome series linking AI training to occupational transition are not visible in the coded pair (D07–D08).
Indonesia	E: Kartu Prakerja documents large-scale digital training infrastructure (D10).	E: Long-horizon national AI strategy includes talent and education priorities (D09).	I: General digital-learning capacity could support AI pathways if occupational competencies are made explicit (D09–D10).	G: The bridge from general training to assessed occupational AI capability remains incompletely documented (D09–D10).
Philippines	G: Foundational access is less explicit than advanced workforce and innovation aims in the selected portal (D11).	E: Workforce development is a named strategic component (D11, 'Workforce Development').	I: The updated roadmap provides a current strategic direction but not a longitudinal implementation series (D11).	G: One recent digital strategy source limits claims about delivery and outcomes (D11).
Thailand	E: Human-capability and education measures are stated in the national plan (D12, pp. 8, 12).	E: Talent targets and AI education are explicit (D12); the assessment adds implementation context (D13).	I: Strategy-plus-assessment supports a governance diagnosis, not an effectiveness claim (D12–D13).	G: Recurring curriculum refresh and comparable workforce outcomes remain incompletely specified (D12–D13).
Viet Nam	G: Inclusion pathways receive less implementation detail than national capability targets (D14).	E: Education, training, research, and application objectives are stated (D14, Section II.2[b]).	I: Ambitious institutional goals require observable delivery and feedback mechanisms (D14).	G: One coded national decision limits cross-document corroboration and outcome claims (D14).

Note. E = explicit documentary statement; I = analytical inference; G = evidence gap or negative case. Each country contributes one entry per dimension; cells are not scores.

Table 3 compares the same dimensions for every case. Each cell contains a document ID and an E, I, or G label. Singapore's selected documents provide the most visible connection between an AI strategy and an established lifelong-learning institution, but they do not establish causal workforce effects. Malaysia and Indonesia each pair a long-term strategic document with broader digital or training infrastructure, making potential delivery bridges visible while leaving the AI-specific translation incomplete. Thailand pairs a national plan with an intergovernmental assessment, which supports a governance diagnosis but not an effectiveness claim. The Philippines and Viet Nam each have one coded national source, so the comparison records strategic emphasis and evidence gaps without strong claims about delivery.

The matrix should not be converted into a league table. Documentary visibility may reflect publication practice as much as underlying institutional capability. The defensible cross-case questions are narrower: Is there an accessible learning route? Are changing tasks translated into assessable outcomes? Are roles and feedback channels explicit? Are learning, transition, and equity outcomes publicly reported?

DISCUSSION

Task-level preparation and the limits of exposure claims

The first pattern is consistent with research locating AI's effects at the level of tasks and organisational design rather than treating exposure as synonymous with displacement (Raisch & Krakowski, 2021). Vacancy and cross-country evidence shows demand for AI skills while cautioning against a simple economy-wide employment effect (Acemoglu et al., 2022; Alekseeva et al., 2021; Georgieff & Hyee, 2022). Generative-AI studies demonstrate gains in bounded settings, but effects depend on work design and experience (Brynjolfsson et al., 2025; Noy & Zhang, 2023). The policy implication is conditional: task mapping is most useful where sector bodies can obtain recurrent employer and worker evidence and update verification duties as systems change.

This interpretation also limits macroeconomic claims. Aggregate effects depend on technical feasibility, deployment quality, and the creation of useful new tasks (Acemoglu, 2025). The present analysis therefore does not claim that training causes competitiveness or job growth. It identifies a documentary link that should be tested with occupation-level, programme, and labour-market data.

AI literacy as an inclusive educational pathway

The access and curriculum patterns connect workforce policy to a multidimensional AI-literacy literature. Reviews describe AI literacy as understanding, use, critical evaluation, ethics, and social consequences (Almatrafi et al., 2024; Laupichler et al., 2022; Lintner, 2024; Ng et al., 2021), while workplace research emphasises critical engagement in organisational context (Cetindamar et al., 2024). The documents add an institutional question: whether people can enter and progress through such learning. A layered pathway—foundational digital access, occupational AI use, and advanced technical capability—is therefore a proposition for programme design, not a result that every country has implemented.

Research on marginal workers and national workforce gaps indicates why access cannot be reduced to broadband or course supply (Gayatri et al., 2023; Intaratat, 2022). Pedagogical research similarly shows that current content requires professional learning, assessment design, and context-specific application (Casal-Otero et al., 2023; Chiu, 2024; Lee et al., 2024; Su et al., 2022). These insights belong in discussion rather than results because they interpret, rather than constitute, the coded policy evidence.

Relationship to adjacent theories

Alignment capacity adds specificity to adjacent perspectives. Policy coherence asks whether goals and instruments conflict; the present framework asks whether task signals are translated into curricula and feedback within that coherent architecture. Skills ecosystems explain interdependence among firms, providers, and institutions; alignment capacity isolates four observable translation functions for AI workforce policy. Institutional complementarity describes broad fit, whereas the proposed construct focuses on meso-level delivery relations. Dynamic capabilities emphasise sensing and reconfiguration within firms; alignment capacity applies an analogous temporal problem to a multi-actor policy system without importing firm-level assumptions. Boundary-object theory supplies the mechanism through which different actors may coordinate around task profiles, taxonomies, credentials, and dashboards.

The construct should remain provisional. Its four components—access, curriculum, coordination, and accountability alignment—are sensitising dimensions derived from a small documentary corpus. Figure 1 hypothesises relationships among them, but the study does not validate causal ordering, indicators, or scale properties. Empirical testing should examine whether the proposed boundary objects actually improve translation, whether feedback changes curricula, and whether stronger alignment predicts more equitable learning and employment transitions.

PRACTICAL IMPLICATIONS

The following are evidence-informed options, not universal prescriptions. Their relevance depends on sectoral data, delivery institutions, fiscal capacity, learner access, and the maturity of monitoring systems. Table 4 links each option to the documentary finding, an applicability condition, and a testable indicator.

Table 4. Evidence-informed options and applicability conditions

Option	Evidence base	Applicability condition	Indicator for evaluation
Task-based sector maps	Theme 1: policy frames sectoral adaptation; task-level outcomes are absent.	Use where sector bodies can gather recurrent employer and worker evidence.	Updated task, verification, and complementary-skill profiles; documented revision cycle.
Stackable, inclusive pathways	Theme 2: access conditions advanced learning but is unevenly explicit.	Use where funding, connectivity, language, and learner time are known constraints.	Participation, completion, and assessed learning by learner group and location.
Educator development with curriculum refresh	Theme 3: teaching capability and labour-market translation are linked.	Use where providers can access current tools and sector feedback.	Trainer participation; assessment revision; time from task signal to curriculum update.
Minimum outcome dashboard	Theme 4: public outcome evidence is the weakest common link.	Use where privacy, data quality, and agency ownership are specified before scale-up.	Inputs, reach, learning, transition, and equity indicators with limitations disclosed.

LIMITATIONS AND FUTURE RESEARCH

This study has seven limitations. First, six cases do not represent all ASEAN settings. Second, requiring public English or authorised English material systematically privileges administrations and institutions that translate and publish online; relevant national-language evidence may alter the comparison. Third, the country document counts and genres are unequal. Country-level matrices prevent frequency weighting, but a single strategy for the Philippines or Viet Nam cannot provide the same corroboration as a strategy-plus-implementation pair. Fourth, policy texts are strategic representations: documentary emphasis and public reporting are not equivalent to implementation fidelity, participant experience, or outcomes.

Fifth, a single researcher conducted coding. The codebook, reflexive memo, negative-case checks, and E/I/G audit trail improve transparency but do not substitute for interpretive dialogue or independent replication. Sixth, web-based strategy portals can change and may be less stable than archived PDFs; exact titles, issuers, dates, locators, and verified links are recorded in the supplement. Seventh, the 31 December 2025 cutoff excludes developments published in 2026; the 29 August 2026 activity verified versions and URLs only. These constraints require restrained cross-country language and make the framework provisional.

Future research should extend the corpus through national-language teams and archived version capture, then test alignment capacity with policymakers, employers, educators, training providers, unions, and workers. Multi-country fieldwork should report sampling, recruitment, analytic roles, and disconfirming evidence. Longitudinal studies can test whether task maps change curricula, whether learners demonstrate occupationally relevant competencies, and whether outcomes differ by geography, gender, disability, employment status, and enterprise size. Instrument development should retain separate dimensions until their relationships and measurement properties are established.

CONCLUSION

This qualitative comparative document analysis examined 14 official policy, implementation, and intergovernmental documents relating to six ASEAN countries and regional policy. It did not evaluate every ASEAN setting, survey workers, or produce a readiness ranking. Within that scope, four documentary patterns were identified: strategies frame AI as reconfiguring task bundles; foundational access conditions participation but is unevenly explicit; curriculum agility depends on educator capability and labour-market translation; and coordination plus outcome feedback make alignment between ambition and delivery more visible.

The study's contribution is a provisional conception of alignment capacity: the ability of a policy system to connect task signals, inclusive learning, curriculum translation, coordinated delivery, and accountable feedback. The construct narrows rather than expands the evidence claim. It identifies what future research should observe who can enter learning, how tasks become assessed outcomes, which institutions own delivery, what boundary objects support communication, and whether public evidence changes policy. Until these relationships are tested with primary and longitudinal data, alignment capacity should be used as a diagnostic framework rather than a validated readiness measure.

DECLARATIONS

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Author Contributions

Fachria Yamin Marasabessy: Conceptualization, Methodology, Data Curation, Formal Analysis, Writing – Original Draft; **Siti Hadianti:** Validation, Writing – Review & Editing; **Azizah Mujahidah Annisa:** Visualization, Writing – Review & Editing. All authors have read and approved the final version of the manuscript.

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Conflict of Interest

The authors declare that they have no conflict of interest related to the research, authorship, and/or publication of this article. None of the authors is a member of the editorial board, editorial team, or reviewer pool of *Journal of Communication and Education Studies (JCES)*.

Ethical Approval and Informed Consent

This study analysed publicly available policy, implementation, and intergovernmental documents and did not involve human or animal participants; therefore, ethical approval and informed consent were not required.

Data Availability Statement

All documents analysed in this study are publicly available from the sources listed in the References. The extraction matrix, codebook, screening decisions, and evidence audit trail are provided in Supplementary Material S1–S4 and are available from the corresponding author upon reasonable request.

Declaration of Generative AI Use

During the preparation of this manuscript, the authors used ChatGPT (OpenAI) solely for language editing (grammar, spelling, and readability). The authors reviewed and edited the output and take full responsibility for the content of the publication. Generative AI was not used to produce data, analyses, findings, or references, and is not listed as an author.

Declaration of Originality

The authors declare that this manuscript is original, has not been published previously, is not under consideration for publication elsewhere, and is free from plagiarism. Its publication has been approved by all authors.

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