KONRAD ADENAUER STIFTUNG

Grassroots Perspectives on AI

Shaping Policy in Education, Ethics, Engineering, and Enforcement

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Collaborating with

CIRROLYTIX

ETHICS PH

KONRAD ADENAUER STIFTUNG

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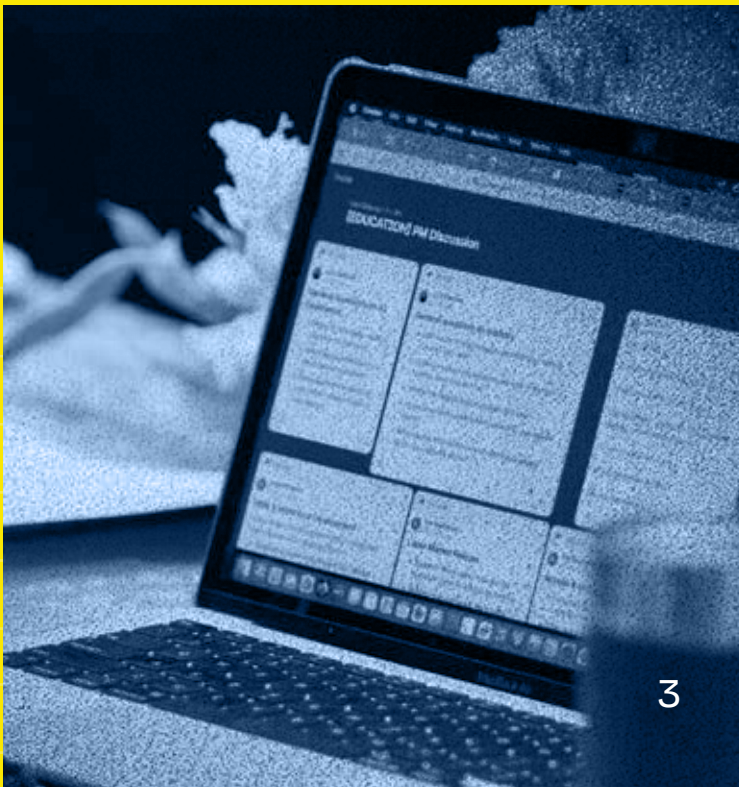

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Grassroots Perspectives on AI

Shaping Policy in Education, Ethics, Engineering, and Enforcement

Executive Summary

On 18 September 2025, CirroLytix and Data and AI Ethics, with support from Konrad Adenauer Stiftung, convened a multi-sector roundtable discussion entitled **Grassroots Perspectives on AI: Shaping Policy in Education, Ethics, Engineering, and Enforcement.**

The Philippines is largely affected by a digital gap between high AI usage and weak institutional readiness, making effective governance and capacity-building the urgent priority. This situation sets the context for the Roundtable. Twenty (20) expert panelists were gathered from government, private industry, civil society, and academia to ideate on policies and programs that can be developed or prioritized to bridge this AI gap.

The conversation was guided by the **4E framework—Education, Engineering, Enforcement, and Ethics,** which offers a holistic policy pathway to bridge the country's readiness gaps, align public and private sector priorities, and ensure that AI adoption contributes to **inclusive, rights-based, and sustainable human development.**

Throughout the discussions, participants highlighted several system-level realities:

- **Infrastructure and capacity remain insufficient and unequal,** with major disparities in connectivity, compute resources, data availability, digital literacy, and power reliability, especially outside Metro Manila.
- **Institutional fragmentation and overlapping mandates** continue to slow progress, as agencies lack shared protocols, interoperable systems, and clarity on leadership roles in AI development and regulation.

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Executive Summary

- **Risks of technological dependence** are escalating as foreign models, platforms, and datasets increasingly shape local AI use, potentially weakening national sovereignty in the long term.
- **Local contextualization of AI,** including Philippine languages, cultural norms, governance models, and sectoral sectoral datasets, was repeatedly emphasized as essential for relevance, safety, and national competitiveness.

Participants also proposed actionable mechanisms that move beyond high-level principles, such as:

- Rolling out institutional mechanisms, such as **AI Ethics Officers and Ethics Committees and a Presidential Executive Order on AI** to monitor and regulate the misuse of AI and capacitate individuals, organizations, and communities on the best and ethical use cases.
- Developing **sovereign data-hosting options** and **public sector dataset libraries,** expanding **national compute access,** and introducing **incentive structures** to encourage responsible AI development.

Advancing the Philippines' shift from passive consumption toward active creation of AI systems aligned with national priorities will require sustained commitments to:

- Build **foundational infrastructure and capacity,** including connectivity, compute, teacher training, and community-level access to digital tools.
- Strengthen **education and AI literacy pipelines** through curriculum reform, teacher training, and public-facing digital literacy programs.
- Adopt **regulatory, ethical, and incentive mechanisms** that promote safe, innovation-friendly, rights-based AI deployment across sectors.
- Enhance **enforcement and governance capacity** by creating clear institutional roles, due-process mechanisms, and oversight structures.
- Support **local innovation ecosystems** with R&D funding, small and medium enterprises (SME) / startup enablement, public-private collaboration, and sovereign capabilities in data and compute.
- Deepen **inter-agency coordination and community collaboration** to ensure inclusive participation, cultural relevance, and long-term AI sovereignty.

Executive Summary

The roundtable closed with a reflective sharing of participants' key learnings from their breakout discussions, followed by a closing plenary by Dominic Ligot of CirroLytix and Data and AI Ethics PH.

The report that follows provides a detailed account of the discussion, organized into four sections: **Introduction, Objectives, Key Findings, and Conclusion,** highlighting both the near-term steps that can be taken immediately and the strategic reforms needed over the longer horizon.

Introduction

AI and the Philippine Paradox

Artificial Intelligence (AI) is rapidly transforming economies, labor markets, and governance systems worldwide. The Philippines, a nation celebrated for its digitally active population and thriving Information Technology and Business Process Management (IT-BPM) sector, finds itself at a crossroads: **highly enthusiastic in AI adoption yet structurally underprepared for its systemic integration.**

On one hand, Filipino workers are among the most engaged users of AI globally. LinkedIn data show that **86% of Filipino knowledge workers** already use AI tools at work, surpassing global and regional averages[1]. In the IT-BPM sector, **11% of firms** have fully implemented AI systems, compared to only **4% globally[2].** Filipinos rank among the **top five users of generative AI tools** such as ChatGPT and Midjourney.

On the other hand, structural assessments paint a sobering picture. The **Oxford Government AI Readiness Index** places the Philippines in the lower tiers globally, citing deficits in skills, digital infrastructure, and coherent policy frameworks[3]. While existing laws such as the Data Privacy Act and the Cybercrime Prevention Act indirectly touch on AI, there remains **no comprehensive AI governance framework** to ensure responsible, ethical, and inclusive use.

This paradox, a digitally engaged population amid institutional undercapacity, defines the Philippine AI moment.

[1] *Microsoft and LinkedIn, "2024 Work Trend Index on AI Use at Work in the Philippines," Microsoft News Center – Philippines, May 23, 2024, https://news.microsoft.com/en-ph/2024/05/23/microsoft-and-linkedin-release-2024-work-trend-index-on-ai-use-at-work-in-the-philippines/.*

[2] *Dominic Vincent Ligot, Froland Tajale, Carole Gaffud & Juninah Angcot, IT-BPM Adoption of Artificial Intelligence: Highlights from IBPAP Member Survey, SSRN (31 Dec. 2024), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5348837.*

[3] *Oxford Insights, Government AI Readiness Index 2023, 65th place (51.98), highlighting deficits in skills, digital infrastructure, and coherent policy frameworks in the Philippines; existing laws such as the Data Privacy Act and the Cybercrime Prevention Act indirectly touch on AI, but no comprehensive AI governance framework yet exists to ensure responsible and ethical use, https://oxfordinsights.com/wp-content/uploads/2023/12/2023-Government-AI-Readiness-Index-1.pdf.*

Introduction

The challenge for policymakers, educators, and industry leaders is not to ignite adoption—it is already happening—but to **govern and harness it** in ways that promote innovation, equity, and human flourishing.

Understanding the Disconnect in Filipino Technology Adoption

Historically, the Philippines has trended behind in adapting novel technology. This has stunted the nation's ability to progress and flourish.

This threat becomes critical with the current direction of AI policy, which skews towards restriction by including punitive measures such as sizable fines and even imprisonment. In his opening plenary, Dominic Ligot, founder of **Cirrolytix Research Services** and **Data and AI Ethics PH,** emphasizes the detriment of legislating regulations that are born out of fear. One such proposed policy is the Physical Identity Protection Act[4], which prescribes heavy fines or two years of imprisonment for individuals using AI to recreate a person's physical likeness without prior consent or legal basis. Ligot emphasizes that the passing of this bill and others like it will only deter the use of AI, not the wrongful use of AI.

Ultimately, these restrictions will only stifle innovation, experimentation, use, and by consequence, competitive advantages. This would hold the Philippines back from making any breakthroughs with the novel technology and exacerbate the digital paradox it currently faces.

Despite this, Ligot acknowledges that **regulation is a necessity.** Without the institutional structures to both ensure that the benefits of AI are accessible to all and safeguard the most vulnerable from its risks, Filipinos may remain perpetual consumers of foreign AI, rather than active creators of technology that reflects the nation's values and development priorities.

[4] *Senate of the Philippines, Senate Bill No. 782 (20th Congress): Physical Identity Protection Act, long title "An Act Protecting the Identity and Physical Attributes of Individuals Against the Wrongful and Improper Use of Artificial Intelligence Technology …", introduced August 4, 2025, https://legacy.senate.gov.ph/lis/bill_res.aspx?congress=20&q=SBN-782.*

Introduction

4E Framework: Bridging Community Adoption and Top-Down Governance

While regulation is vital, it must be informed by local realities and designed to balance innovation, accountability, and inclusivity.

In his opening plenary, Dominic Ligot posits that there is a gap between how we develop AI policy and how it is implemented. He cites the EU Artificial Intelligence (AI) Act as an example of regional legislation; despite its comprehensive framework and rollout, implementation remains fragmented across EU states. If national policymaking on AI were to follow this example without proper context-setting, it would not only be ineffective, but potentially restrictive of potential AI experimentation and innovation.

To address this developmental paradox, this paper proposes a **4E Framework for Inclusive AI Adoption**[5], built on four mutually reinforcing pillars:

What is 4E?

Education
Reforming education systems and workforce development to build AI literacy, digital competence, and lifelong learning pathways.

Engineering
Investing in digital infrastructure, connectivity, and sovereign AI capabilities to create a resilient technological foundation.

Enforcement
Updating and harmonizing existing laws to regulate AI systems in areas such as data privacy, intellectual property, labor, and cybersecurity.

Ethics
Promoting a human-centered approach to AI through a Philippine "AI Bill of Rights" and responsible innovation principles.

The 4E Framework positions AI policy as an integrated system rather than a sectoral agenda. It connects the **human capital dimension (Education)** with the **technological (Engineering),**

[5] *Dominic Ligot, AI Governance: A Framework for Responsible AI Development, SSRN (2024), DOI: 10.2139/ssrn.4817726.*

Introduction

regulatory (Enforcement), and **normative (Ethics)** pillars, ensuring that adoption leads to **capability, accountability, and social good.**

Why 4E?

The rationale for the 4E framework stems from the disconnect between grassroots innovation and top-down governance. Filipino citizens and enterprises are experimenting with AI tools faster than the policy ecosystem can react. Without coherent strategy, this can entrench inequalities: rural schools without digital access will lag behind, small enterprises will lack compliance capacity, and workers may face automation shocks without reskilling opportunities.

The 4E framework bridges these gaps:

- **Education** ensures that the workforce is not displaced but empowered by AI.
- **Engineering** provides the physical and digital backbone necessary for equitable access.
- **Enforcement** modernizes legal and institutional mechanisms to ensure safety, fairness, and accountability.
- **Ethics** anchors AI development in Filipino values, protecting dignity, transparency, and the collective good.

4E is both an adoption strategy and a governance compass, one that ensures AI serves human and national development rather than merely technological progress.

Introduction

Related Literature

The call for integrated AI governance frameworks has grown globally. **The European Union's AI Act (2024)** represents the first comprehensive regulatory model, classifying AI systems by risk and mandating transparency and accountability[6]. The **U.S. Executive Order on Safe, Secure, and Trustworthy AI (2023)** emphasizes testing, standards, and civil rights protection[7]. **Singapore's Model AI Governance Framework** promotes explainability and accountability without stifling innovation[8], while **Japan's Society 5.0 vision** integrates AI into human-centered sustainable development[9].

In Southeast Asia, **Malaysia**[10] and **Vietnam**[11] have launched national AI roadmaps linking education, infrastructure, and ethics, mirroring the 4E structure implicitly. The Philippines' 2019 **AI Roadmap**[12] laid early groundwork but lacked legislative and infrastructural follow-through. The current gap highlights the need for an updated, holistic policy framework responsive to the country's unique combination of **high adoption and low readiness.**

Scholarly and institutional literature, from the OECD's Principles on AI, UNESCO's Recommendation on the Ethics of AI, and the World Bank's Digital Development Reports, reinforces the importance of multi-pillar strategies that align skills, governance, and ethics. The 4E framework localizes these global insights to Philippine realities, making it both **globally resonant and contextually grounded.**

[6] *European Commission, "AI Act enters into force," European Commission News (1 Aug. 2024).*

[7] *The White House, "FACT SHEET: President Biden Issues Executive Order on Safe, Secure, and Trustworthy Artificial Intelligence" (30 Oct. 2023).*

[8] *IMDA & PDPC, Model Artificial Intelligence Governance Framework, 2nd Edition (21 Jan. 2020).*

[9] *Cabinet Office, Government of Japan, Society 5.0: What Is Society 5.0? (accessed Nov. 18, 2025), https://www8.cao.go.jp/cstp/english/society5_0/index.html.*

[10] *MOSTI / Malaysian Government, National Guidelines on AI Governance & Ethics (AIGE).*

[11] *Decision No. 2259/QĐ-BTTTT, Strategy for Developing and Applying Artificial Intelligence by 2030, Minister of Information & Communications, Vietnam (7 Dec. 2022).*

[12] *UNESCO, "Philippines Country Profile," Global AI Ethics & Governance Observatory.*

Process

Ideating future-oriented solutions

To implement the 4E framework in practice, we invited 20 panelists for a one-day policy roundtable. Each panelist was assigned into a group corresponding with one of the 4Es. Where possible, panelists within a group are multi-sectoral, bringing experience from the government, private sector, and nonprofit. This ensures both the sharing of varied viewpoints and the opportunity to find areas of collaboration.

Objectives

The roundtable aimed to:

1. **Gather insights** from experts representing the four sectors—education, ethics, engineering, and enforcement—on how AI is currently being used and how it impacts their work and communities.
2. **Propose refinements and policy directions** that balance the benefits and risks of AI, providing a foundation for evidence-based and inclusive policymaking in the Philippines.

Methodology

The policy roundtable began with an opening plenary by Dominic Ligot to share the context of the 4Es and the Philippine context. Ligot also encourages the panel: **"We want everyone to walk out of this roundtable as an AI policy advocate."**

Next, panelists went to their breakout groups to discuss each of their assigned themes under the guidance of a facilitator. Facilitators took one of two directions: free-flowing discussions on each panelist's experienced pain points and suggested policy reforms needed for AI in the Philippines; or a targeted discussion to examine the nuances of specific facilitator-proposed policy positions.

The day concluded with each group presenting their synthesis of findings and recommendations for beneficial AI policy development.

Process

Education

Enthusiastic Users, Underprepared Systems

In education, the Philippines exemplifies the **"fast adopter, slow builder"** paradox. While 86% of Filipino knowledge workers report using AI tools (exceeding global averages), our education system remains structurally unprepared for this reality. This isn't merely a technological gap; it's a sovereignty challenge. Without strategic intervention, Filipino learners and workers will remain perpetual consumers of foreign AI systems rather than creators and shapers of technology that reflects our values, languages, and development priorities.

Contextual Tensions: Where Reality Meets Aspiration

The education ecosystem navigates three critical tensions that demand policy attention:

1. **Adoption without foundation:** Filipinos enthusiastically embrace AI tools despite foundational literacy gaps that risk creating "technological dependency without technological sovereignty."
2. **Systemic burden versus agile response:** An already overburdened education system must simultaneously address basic learning recovery while preparing for AI-integrated futures.
3. **Innovation versus equity:** Without deliberate design, AI adoption threatens to deepen existing disparities between Metro Manila and provinces, private and public institutions, and privileged versus marginalized learners.

***Dominic Ligot facilitated the discussion** joined by: Maria Leah Peachy Pacquing, Jamie Isip-Cumpas, Pamela Cajilig, Joshua Aquino, Fr. Benigno Beltran, SVD, and Noemi Marasigan.*

Education

Comprehensive Challenges Across the Learning Ecosystem

The breakout session surfaced multifaceted barriers to preparing both learners and learning systems for an AI-enabled future. These can be broadly categorized across the following dimensions:

Learner Access, Equity and Readiness

- **Infrastructure inequality:** The rural-urban digital divide widens as AI adoption accelerates, with connectivity gaps and frequent brownouts disproportionately affecting learners outside major centers.
- **Foundational-literacy-AI layering problem:** Introducing advanced AI concepts without addressing basic literacy creates compounded learning deficits.
- **Language marginalization:** English-dominant AI tools exclude learners from regional and indigenous language communities.
- **Digital wellness risks:** Unmediated AI exposure leads to attention fatigue, anxiety, and unhealthy dependency patterns among students.

Family, Community, and Societal Context

- **Parental exclusion in AI guidance:** Particularly acute in low-income households where parents lack training to supervise children's AI interactions or recognize potential harms.
- **Absence of healthy AI use standards:** No consistent norms exist across home and school environments for screen time, ethical boundaries, and safety protocols around AI tools.
- **Social-emotional displacement risks:** AI-driven learning models may reduce vital peer interactions, collaborative problem-solving, and empathy development essential to Filipino communal values.

Teacher Capability and Systemic Support

- **Confidence deficit:** Educators face high workloads with minimal AI training, creating implementation barriers despite policy mandates.
- **Top-down technology imposition:** EdTech solutions rarely incorporate teacher co-design, leading to poor adoption and wasted resources.
- **Professional anxiety:** Uncertainty about AI's impact on teaching roles creates psychological strain without adequate transition support.

Education

Curriculum and Cognitive Integrity

- **Rigid curriculum structures:** AI topics remain isolated add-ons rather than integrated across disciplines and grade levels.
- **Critical thinking erosion:** Overreliance on AI tools without proper guidance risks diminishing analytical reasoning and intellectual rigor.
- **Misalignment with labor markets:** IT-BPM signals show 50% of roles need reskilling (particularly in Generative AI (Gen AI), Natural Language Processing (NLP), automation), while academic institutions continue overemphasizing classical machine learning.

Systemic Governance and Innovation Gaps

- **Fragmented coordination:** Weak alignment among Department of Education (DepEd), Commission on Higher Education (CHED), and Technical Education And Skills Development Authority (TESDA) creates incoherent AI education pathways.
- **Vendor accountability void:** Unregulated EdTech proliferation enables opaque data practices and profit-driven implementations.
- **Research desert:** Heavy reliance on imported solutions with minimal Filipino-led AI R&D creates cultural mismatch and intellectual property dependency.

Policy Direction: Democratizing Capability Through Strategic Intervention

The group then discussed their recommendations for how to improve on the five identified dimensions.

1. National AI Literacy & Fluency Program with Family Integration

Reframing foundational learning for an AI-native generation while strengthening home-school connections

1.1. Age-appropriate AI literacy standards across K-12, emphasizing critical evaluation of AI outputs and safe usage practices—responding to the reality that Filipino students are already encountering these tools daily.

1.2. Parent-teacher digital steward partnerships establishing community-based training hubs where parents learn alongside educators to guide children's AI interactions.

1.3. Barangay-based learning hubs powered by renewable energy, expanding the DepEd Digital Rise Program with local government units (LGU) cost-sharing to address infrastructure inequality.

1.4. Multilingual AI learning tools mandating vendor support for at least two Filipino languages to prevent cultural marginalization.

Education

1.5. National AI Wellness Framework addressing screen time, algorithmic exposure, and cognitive health to protect learners from unmediated AI consumption, with specific modules on maintaining social-emotional development.

1.6. Child and Student Data Privacy Act establishing specialized protections for minors' information in learning platforms.

2. Teacher & Trainer Enablement

Empowering the human architects of AI-integrated learning

2.1. Mandatory AI Pedagogy Modules in Continuing Professional Development (CPD) accredited by Professional Regulation Commission (PRC) and National Educators' Academy of the Philippines (NEAP), ensuring educators can guide responsible AI use.

2.2. Teacher Co-design Rights institutionalized in EdTech procurement and evaluation processes, positioning educators as innovation partners rather than passive recipients.

2.3. Regional Teacher Innovation Hubs under DepEd divisions developing localized AI lesson plans and contextual research.

2.4. AI Workload and Well-Being Assessments preventing burnout and digital anxiety among educators navigating rapid technological change.

2.5. Expanded TEACH-TECH partnerships creating sustainable career pathways for educators to remain relevant in AI-integrated classrooms.

3. Market-Aligned Tertiary & TVET Reform

Building the talent pipeline for sovereign AI development

3.1. National AI Literacy Competency Framework defining cognitive and ethical benchmarks per grade level, with special emphasis on Gen AI, prompt engineering, NLP, and AI operations demanded by industry.

3.2. Cross-disciplinary AI integration embedding AI themes within science, mathematics, media, and social studies rather than treating it as a standalone subject.

3.3. Philippine-context case libraries developed by teachers focusing on AI applications in agriculture, health, and disaster response.

3.4. Accelerated Micro-Credential Pathways aligned with the Philippine Skills and Occupations Framework (PSOF), enabling rapid curriculum adaptation to emerging AI roles.

3.5. Filipino Language AI Development through government-university partnerships creating culturally relevant educational content and tools.

Education

4. Workforce Reskilling Compact

Bridging today's skills gap while building tomorrow's capabilities

4.1. National Skills Passport linking TESDA, CHED, and Department of Labor and Employment (DOLE) databases to recognize micro-credentials and stackable learning pathways.

4.2. National AI Reskilling and Career Transition Fund through public-private partnerships supporting mid-career professionals, freelancers, and displaced workers pursuing AI-adjacent upskilling.

4.3. National Skills Recognition and Employment Act incentivizing employers to hire based on verified competencies rather than degrees alone.

4.4. Job Transition Insurance Scheme supporting workers displaced by automation, co-financed through industry contributions proportionate to AI implementation scale.

4.5. Recognition of Prior Learning (RPL) centers in State Universities and Colleges (SUCs) and Technical-Vocational Institutions (TVIs) to validate informal and work-based AI learning.

Implementation Architecture: From Policy to Practice

These architectural mechanisms are proposed by the group to mobilize the solutions in the previous section.

Governance

Create an **AI in Education Council** co-chaired by Department of Science and Technology (DOST) and DepEd, with membership spanning CHED, TESDA, National Economic and Development Authority (NEDA), industry representatives, learner advocates, and parent-teacher organization leaders to ensure coordinated implementation.

Sandbox Approach

Institutionalize **controlled testing environments** in regional schools for piloting AI-assisted teaching tools, with mandatory ethical review boards overseeing experimentation and requiring family impact assessments.

Community Integration

Establish **Digital Steward Networks** in each barangay, training parent volunteers and community leaders to support AI literacy and wellness monitoring outside school hours.

Climate Resilience Integration

Align AI education infrastructure with national disaster resilience frameworks, prioritizing solar-powered connectivity hubs and offline-capable AI tools for continuity during disruptions.

Education

Accountability Framework

Establish a **National AI in Education Dashboard** tracking adoption, equity metrics, and learning outcomes, alongside mandatory certification and audit protocols for educational AI vendors. Include social-emotional development metrics to ensure AI adoption doesn't erode vital human skills.

Conclusion: Beyond Users to Creators

By democratizing AI capability through strategic education reform that actively engages families and communities, we transform the "fast adopter, slow builder" paradox into our competitive advantage.

Filipinos aren't waiting for permission to use AI. They're already among the world's **most enthusiastic adopters.** The national education policy must recognize this reality while pivoting from passive consumption to **active creation.**

The goal isn't merely to produce AI-literate citizens, but to cultivate **globally competitive Filipino AI creators** who can build **sovereign systems reflecting our unique cultural context, languages, and development priorities.** Crucially, this must happen while preserving the social fabric that defines us—a collaborative, empathetic society where technology amplifies human connection rather than replacing it. By **ensuring parents, teachers, and communities are equal partners in this journey,** technological enthusiasm would translate into real economic power and human flourishing across all regions of the Philippine archipelago.

Process Engineering

Digital Enthusiasm on Fragile Foundations

In engineering, the Philippines exemplifies a **"high-usage, low-readiness"** environment where digital enthusiasm dangerously outpaces physical infrastructure.

In strengthening infrastructure, we must be wary of the framing of infrastructure as mere hardware: a blur of servers, networks, and devices bundled under a single monolith "AI infrastructure." This framing overlooks its deeper role as a system of enablers—layered, technical, and ethical—that shape who can participate, who benefits, and who is left behind.

The Five-Layer Framework for Responsible AI[13] helps make these layers visible:

1. **Training Data Layer:** This layer concerns the quality and diversity of data used to train AI. If data is biased, incomplete, or inaccessible, the entire AI system inherits those weaknesses.
2. **Algorithm Layer:** This refers to the design of AI models themselves, including how they make decisions and whether those decisions are explainable and fair.
3. **Inference Layer:** This governs how AI models interpret data and generate outputs. It focuses on ensuring accuracy, reliability, and appropriate human oversight.

[13] *Dominic Vincent Ligot, Generative AI Safety: A Layered Framework for Ensuring Responsible AI Development and Deployment, SSRN, Nov. 2, 2024, https://ssrn.com/abstract=5008853*

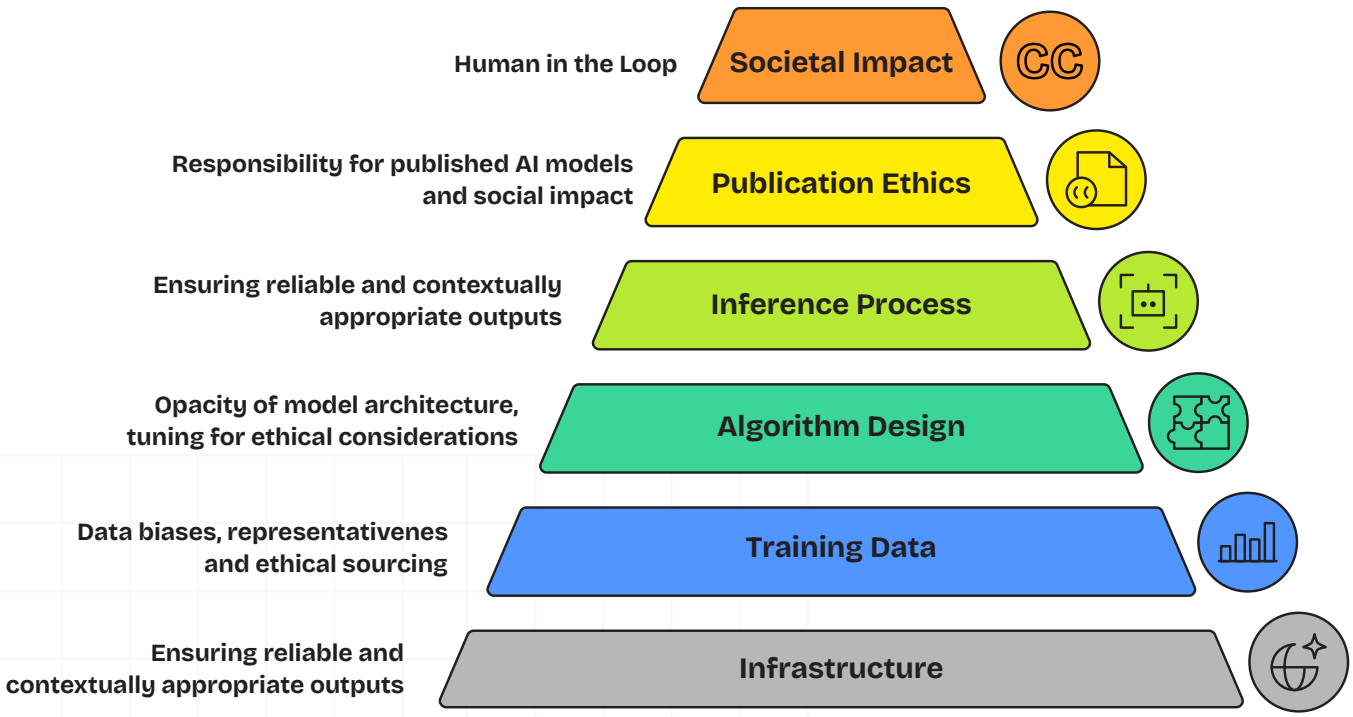
***Frances Claire Tayco facilitated the discussion** joined by: Guido Alfredo A. Delgado, Gina Romero, Marc Talampas, Carlos Nazareno and Maria Sangil.*

Engineering

4. **Publication Layer:** This involves the safe and ethical release or sharing of AI systems. It ensures that models made public or shared with partners are protected from misuse.
5. **Societal Impact Layer:** This final layer concerns how AI affects people and communities. It asks whether AI systems promote inclusion, protect rights, and contribute to sustainable development.

Beneath all these layers lies infrastructure: the **energy, compute, and connectivity** backbone that determines their viability. Infrastructure is not only technical; it is economic, political, and moral. Its distribution reflects our values, and its design determines our capacity for inclusive and responsible AI.

This structural gap between high usage and low readiness flows through five interconnected layers, all rooted in foundational deficits in energy, connectivity, compute, and data hosting. By treating engineering as mere modernization instead of sovereign digital nation-building, the Philippines risks anchoring its AI future on imported infrastructure it neither controls nor fully understands.



Engineering

Contextual Tensions: Where Ambition Meets Reality

Our engineering ecosystem navigates three defining tensions:

1. **Energy-cost paradox:** High electricity costs[14] (nearly twice ASEAN peers such as Malaysia and Vietnam) make local AI infrastructure economically uncompetitive while simultaneously increasing dependency on foreign cloud providers.
2. **Connectivity concentration versus distributed need:** Spectrum and infrastructure remain concentrated among major telcos while community-driven networks face regulatory barriers, excluding rural communities from AI participation.
3. **Data sovereignty versus practical constraints:** Critical government and citizen data flows through foreign servers despite legitimate security concerns, creating vulnerability without viable local alternatives.

Comprehensive Challenges Through the Five-Layer Framework

The challenges below are organized according to the five layers of responsible AI, with an additional infrastructure layer that cuts across all of them. Overall, engineering discussions focused on the foundational requirements for AI infrastructure and data ecosystems. The group identified persistent deficiencies in **connectivity, power, and compute infrastructure** as critical barriers to AI development in the Philippines.

Foundational Infrastructure and Sovereignty

- **Power Costs and Competitiveness**: Electricity in the Philippines costs nearly double that of Vietnam and Malaysia, making local data centers economically unviable and weakening national competitiveness.
- **Renewables and Storage Needs**: Insufficient renewable generation and energy storage capacity limit scalability and sustainability of AI infrastructure.
- **Power reliability deficits**: Frequent regional brownouts disrupt continuous AI operations, particularly outside the National Capital Region (NCR).
- **Connectivity Fragmentation**: Spectrum concentration among telcos and restrictive permitting processes stifle community/mesh networks that could serve underserved areas.
- **Sovereign Compute Deficit:** Domestic computing resources remain inadequate, forcing critical AI workloads onto foreign cloud platforms with questionable data protection.
- **Data Sovereignty and Hosting**: Limited domestic hosting capabilities undermine national control over sensitive data, creating legal and security vulnerabilities.

[14] *Delgado, Guido Alfredo A. "The big hurdle to PH's AI data center future." Insider PH, 18 August 2025, https://insiderph.com/insider-view-the-big-hurdle-to-phs-ai-data-center-future.*

Engineering

Data Quality, Accessibility, and Interoperability

- **Machine-unreadable Public Data**: Government datasets often published in inaccessible formats, limiting their utility for AI training and civic innovation.
- **Standards Fragmentation**: Absence of unified data-sharing protocols across agencies creates silos and prevents integrated AI solutions.
- **Institutional Capacity Gaps**: Many agencies and LGUs lack tools, skills, or processes to maintain accurate, timely datasets.
- **Cultural and Accessibility Data Voids**: Critical datasets supporting Filipino languages, sign language, and accessibility needs remain severely underdeveloped.
- **Sector-Specific Datasets**: Key sectors (health, agriculture, disaster response, transportation, energy) lack well-documented, domain-specific datasets necessary for informed decision-making and responsible AI.

Reliability and Oversight

- **Accuracy Accountability Deficit**: Many AI applications (health diagnostics, financial processing) require 98-99% accuracy to prevent catastrophic errors, yet human validation protocols remain inconsistent.
- **Cyber Hygiene Vulnerabilities**: Weak security practices at local government levels (using personal email for official communications) expose sensitive citizen data.
- **Legal Uncertainty Chilling Innovation**: Developers face threats and legal pressure when publishing civic applications, creating fear of transparency and responsible disclosure.
- **Privacy and security in edge scenarios**: On-device AI raises unresolved issues about consent, data retention, and the balance between privacy and safety in distributed computing environments.

Safe Deployment and Innovation

- **Regulation and Innovation Sandboxes**: Limited mechanisms exist for testing emerging AI technologies in controlled, safe environments, preventing responsible experimentation.
- **Need for Replicable Use Cases**: LGUs and agencies lack clear, scalable reference projects to translate AI policies into practice, creating implementation uncertainty.

Sustainability, Incentives, and Adoption

- **Trust, Culture, and Adoption**: Cultural attitudes toward intelligence, automation, and government technology limit adoption. People trust consumer AI faster than official tools, while "smart shaming" creates barriers to experimentation.
- **Sustainability Gaps**: Programs frequently end after pilot phases ("pilot graveyard pattern") due to weak institutional and financial continuity mechanisms.

Engineering

- **Systemic Challenges and Incentives**: Agencies (Department of Trade and Industry (DTI), DOST, Department of Information and Communications Technology (DICT)) compete for control rather than coordinating resources, fragmenting efforts and wasting donor support.
- **Procurement and R&D sustainability**: "Lowest-bidder" rules, rigid PhilGEPS constraints, high GPU prices, and one-off funding structures actively discourage long-term AI investment and experimentation.

Policy Direction: From Import Dependency to Sovereign Capability

Strengthening the ecosystem requires synchronized action across five interconnected layers—Infrastructure, Data, Algorithms and Compute, Governance and Experimentation, and Societal Adoption. Each layer anchors distinct yet mutually reinforcing reforms that collectively ensure **sustainability, trust, and national competitiveness.**

Infrastructure Layer

Building the physical foundations for digital sovereignty

1. **Strategic Renewable Energy Corridors**: Prioritize solar farms and microgrids directly connected to data centers and regional AI hubs, recognizing energy resilience as core to AI sovereignty.
2. **Community Connectivity Sovereignty**: Legitimize low-orbit satellite solutions, as well as community and mesh networks as formal backhaul providers through legal recognition, spectrum sharing for cooperatives, and simplified National Telecommunications Commission (NTC) / LGU permitting processes.
3. **National Compute Utility**: Expand DOST Advanced Science and Technology Institute (ASTI) infrastructure into a true public utility model with guaranteed access tiers for LGUs, SUCs, and Filipino startups.
4. **Edge AI Deployment Framework**: Support localized, low-power AI systems that can function during connectivity disruptions through standardized "AI-in-a-Box" architectures.
5. **Sovereign Data Hosting Infrastructure**: Invest in government-led data centers ensuring sensitive national data remains within jurisdictional boundaries while meeting international security standards.

Data Layer

Democratizing the fuel that powers AI systems

1. **Mandatory Machine-Readable Publication**: Require all government datasets to be published in developer-friendly formats (JSON, APIs) with consistent metadata standards.

Engineering

2. **National Data-Sharing Protocol**: Establish interoperability frameworks across agencies with standardized authentication, consent management, and data lineage tracking.
3. **Sectoral Dataset Development**: Prioritize health, agriculture, disaster response, and transportation datasets with dedicated funding for collection, validation, and maintenance.
4. **Cultural and Linguistic Data Sovereignty**: Create a national corpus of Filipino languages, dialects, and accessibility markers to train locally relevant AI models.
5. **Phased Data Openness Strategy**: Begin with research and civil society access before full public release, with explainable AI interfaces to help non-technical users navigate complex datasets.

Algorithm and Compute Layer

Ensuring accuracy, explainability, and ethical governance

1. **Risk-tiered AI Oversight System**: Define accuracy thresholds and human validation requirements based on application domains (high-risk health/finance versus low-risk entertainment).
2. **Algorithmic Transparency Standards**: Require model cards, impact documentation, and explainability frameworks for all public-sector AI deployments.
3. **Vendor Neutrality Requirements:** Mandate open interfaces and portability in procurement, with sunset clauses and multi-vendor compatibility to prevent vendor lock-in.
4. **Local Fine-Tuning and Edge AI Support**: Promote the use of open models and low-cost hardware to enable Filipino developers to adapt global models to local contexts.
5. **Algorithmic Accountability Frameworks**: Implement standardized audit protocols for bias, safety, and discrimination before public deployment of AI systems.

Governance and Experimentation Layer

Creating safe pathways from innovation to implementation

1. **National AI Sandbox Network**: Establish time-bound, narrowly-scoped regulatory testing environments in partnership with academic institutions and industry.
2. **Public AI Use Case Commons**: Create a national repository of documented, replicable AI implementations with clear success metrics and failure post-mortems.
3. **Legal Safe Harbor Provisions**: Protect good-faith civic technology developers from disproportionate liability while maintaining accountability for negligence.
4. **Co-led Experimental Governance**: Encourage government-academe-private sector partnerships to validate responsible AI models in local contexts before nationwide deployment.

Engineering

5. **Adaptive Regulatory Frameworks**: Prioritize risk-based, standards-aligned experimentation over broad or premature regulation that stifles innovation.

Societal and Adoption Layer

Building trust and ensuring inclusive participation

1. **National AI literacy campaign:** Launch comprehensive education initiatives for schools, small and medium enterprises (SMEs), and local communities to build confidence and capability.
2. **Counter "Smart Shaming" Initiatives**: Implement inclusive communication strategies that celebrate learning and innovation while normalizing responsible AI adoption.
3. **Fiscal Incentives for Responsible Adoption**: Provide matching grants and incentive packages for SMEs and LGUs incorporating privacy and accountability frameworks in their AI implementations.
4. **Inter-Agency Coordination Mechanism**: Strengthen collaboration between DICT, DOST, DTI, and NEDA to reduce overlaps and improve resource alignment.
5. **Performance-Based Sustainability Frameworks**: Tie funding and incentives to measurable outcomes rather than symbolic adoption, ensuring both public and private actors remain accountable for real social impact.

Conclusion: From Importers to Architects

The Philippines doesn't lack AI enthusiasm. Filipinos are among the world's most eager adopters. What we lack is the deliberate engineering required to transform that enthusiasm into sovereign capability. Our goal isn't merely to host foreign AI systems more efficiently, but to **build infrastructure that reflects Filipino values:** resilient in the face of environmental challenges, inclusive of our archipelagic geography, and protective of our cultural and linguistic diversity.

True infrastructure sovereignty means designing systems that operate reliably under Philippine conditions, trained on representative national data, and governed by standards that prioritize human welfare. This requires moving beyond technological solutionism to recognize infrastructure as a manifestation of national priorities and values. By engineering our AI foundations deliberately, we transform from being passengers on someone else's digital highway to becoming **architects of our own technological destiny.**

Engineering

The infrastructure we build today will determine whether AI becomes a tool of dependency or an **engine of inclusive national development.** As AI reshapes our world, this engineering imperative isn't merely about servers and bandwidth. This is about ensuring that Filipinos aren't just users of these systems, but active participants in their design, governance, and benefit distribution. Through **deliberate investment in sovereign infrastructure,** we can convert our position as fast adopters into sustainable advantage as thoughtful builders.

Process

Enforcement

Protecting Filipino Users from Shadow AI

In enforcement, the Philippines exemplifies a **"high-usage, low-readiness"** environment. Despite 86% of Filipino knowledge workers using AI tools and IT-BPM firms leading regional deployment rates, the country lacks AI-specific regulation. Existing laws, such as the Data Privacy Act, Cybercrime Prevention Act, Labor Code, and Intellectual Property Code, were designed for a pre-generative AI era and stretch uneasily to cover algorithmic management, synthetic media, cross-border model hosting, or AI-generated IP.

This "high-usage, low-readiness" environment has created what industry insiders call **"shadow AI"**: widespread, bottom-up use of powerful tools without institutional guardrails, compliance clarity, or accountability mechanisms, especially dangerous in the globally exposed IT-BPM sector, which handles sensitive foreign client data. The result is a growing mismatch between behavior and legal readiness, exposing citizens and firms to unmanaged risk while deterring responsible investment.

The legal and institutional backbone—**clear rules, capable regulators, and accessible redress mechanisms—**determines whether AI systems operate within boundaries that protect rights and build trust. Without deliberate choices that prioritize accountability, transparent governance, and equitable protection, we risk cementing an AI ecosystem where power flows to those who control the technology rather than those it's meant to serve.

Attorney Karla Bernardo facilitated this panel, *which included: Stephen P. Cutler, Attorney Joshua Jerome Q. Santiago, Noemi M. Mejia, Ephraim D. Valenzuela, Dr. Ivan Pulanco, and Atty. Clifford Tayco.*

Enforcement

Contextual Tensions: Where Innovation Meets Accountability

Enforcement in the Philippine context navigates three core tensions:

1. **Regulatory velocity versus technological pace:** AI evolves faster than the legislative cycle; waiting for a comprehensive AI Act risks entrenching harm and investor uncertainty.
2. **Global exposure versus local safeguards:** As a top destination for outsourced digital services, the Philippines must align with international AI governance expectations while protecting its structurally vulnerable workforce and consumers.
3. **Fragmented mandates versus coherent oversight:** Sectoral regulators (NDPB, DOLE, IPO, BSP) act in silos, creating pockets of guidance amid broader confusion about who governs what in AI.

The group began their discussion by sharing their own experiences with AI in their daily practices. Members have used AI to improve writing quality and research and case analysis. They have also encountered clients using AI for preliminary consultation prior to meeting with them directly, which can have some negative repercussions: hallucinations, citing outdated or incorrect sources (such as those not relevant to Philippine law), and confidentiality risks that the client may not be aware of.

Policy Direction: Alternative, Adaptive, and Agile Legislation

Alternative and Adaptive Legislation to Match Pace of AI

In their problem solving, the enforcement group noted that traditional legislative processes are often too slow to keep pace with technological change.

As an alternative, participants recommended the issuance of a **Presidential Executive Order (EO) to articulate core AI governance principles** while more comprehensive legislation is developed. Compared to legislation, an EO takes significantly less time to implement since its only requirement is a presidential signature before it can be enacted. This is beneficial when it comes to matching the rapid pace at which AI so often evolves. The EO would serve as a general framework that industries can follow to implement their own standards and practices in regulating AI.

Enforcement

The group proposed that AI policy **focus on adaptation rather than protectionism.** This will encourage companies to retrain workers and integrate AI responsibly, rather than preserving outdated job roles. This is preferable compared to an approach of banning companies from replacing workers with AI.

A punitive measure like this will create clogs in the judicial system due to the number of cases that would be filed. Under an EO establishing policies and principles on **transparency, privacy, and consent,** enforcement would be easier to manage without being restrictive. One example would be for companies to train workers to use AI responsibly. If a company then decides to lay off certain workers, they must ensure that their terminated workers will be compensated under the law. This highlights the need for **capacity building without prohibiting the use of AI completely.**

Building on Current Laws and Agencies

The group also discussed the inefficiency that would accompany creating a new AI regulatory agency. The Senate and House bills can instead opt to **mandate existing agencies.** For example, if a bill had provisions for data privacy with AI use, this role could be delegated to the Data Commission with the necessary amendments. This would also be much faster than setting up an entirely new agency.

One concern raised on the misuse of AI, like deepfakes, surfaced a new discussion on the House Bill known as the Deepfake Regulation Act[15]. This bill seeks to prohibit the use of deepfakes without the prior written consent of the person whose likeness is being copied. However, these provisions are also reflected in the Physical Identity Protection Act. During the discussions, it was cited that the provisions of the Cybercrime Law are worded generally enough that the misuse of deepfakes can also qualify within its provisions. The panel discussed that this is a prime example of how **provisions or amendments to existing bills—**which often have overlaps—can be **more effective than creating new laws.**

[15] *House of Representatives, Republic of the Philippines, House Bill No. 3214 (20th Congress), "Deepfake Regulation Act," introduced by Rep. Brian Raymund S. Yamsuan, Aug. 6,2025.*

Enforcement

Implementation Architecture: Enforcement of the Executive Order

The most difficult part of the panel's conversation proved to be around the actual enforcement of the EO, especially when it came to foreign Big Tech entities like Meta, Google, and OpenAI. The group decided to focus on **practical considerations** instead of just penalties, and considered how other government jurisdictions would enforce the EO.

One suggestion from the group involved having treatises with ASEAN. For example, the limitation or withholding of trade and activities with foreign entities if they choose to violate the framework embedded in the EO. This led to an agreement between the members of the panel that the **key to enforcement is creating systems for parties to comply.**

One of their considerations for foreign entities would be to offer tax breaks or tax holidays. They would also be required to have bonds to operate within the Philippines. Violation of the EO would require them to give up these bonds.

The proposed core principles of the Executive Order emphasize two things:

1. **Data Privacy:** Full compliance with existing data privacy laws and transparent data practices.
2. **Human Oversight:** Retaining human decision-making authority in critical domains such as health, labor, human rights, and safety.

Enforcement priorities include:

- **Capacity Building:** Incentivize worker upskilling and adaptation to AI-driven roles.
- **Labor Code Compliance:** Ensure AI integration respects existing labor laws and fair transition practices.
- **Intellectual Property Protection:** Maintain human authorship and inventorship while clarifying fair use in data scraping.
- **Foreign Accountability:** Require foreign AI operators to post compliance bonds and adhere to ASEAN-aligned ethical standards.
- **Transparency and Accountability:** Mandate clear disclosure of data handling and adherence to the Data Privacy Act.

Enforcement

Since the EO will not include punitive measures, participants recommended addressing abuses and liability of AI misuse through a **Code of Ethics** and **Foreign Enforcement.** The former would mean mandating ethics codes for AI in different industries. Depending on the industry's nature, these codes may differ. For foreign AI service providers, the enforcement measure would be requiring bonds for them to operate in the country.

Recommendations for Further Discussion

Beyond specific policy recommendations discussed above, further discussions on the following would be valuable in navigating the Philippines' unique contextual tensions:

1. **Legal Foundations:** In addition to issuing a Presidential Executive Order and adapting existing laws, is **adopting sector-specific oversight mechanisms.** This is where each sector tailors its own AI rules aligned with overarching principles, enabling context-sensitive enforcement across different industries (including but not limited to) IT-BPM, health, finance, education, and public procurement.
2. **Jurisdictional Enforcement and Incentives:** Create accountability while encouraging responsible innovation, by holding AI service providers accountable and introducing strategic incentives to encourage domestic AI adoption.
3. **Completing the Enforcement Ecosystem: Strategic Priorities for Future-Proof Governance:**
   Several areas require dedicated attention to complete a coherent enforcement ecosystem:
   a. **Comprehensive legislative mapping and integration of over 40 pending AI-related bills** in Congress and the Senate, alongside modernization of AI-adjacent legislation (e.g., Data Privacy Act, Cybercrime Prevention Act, Intellectual Property Code, Consumer Act, Labor Code, and Online Sexual Abuse and Exploitation of Children Act (OSAEC).
   b. **Risk-based and adaptive regulation:** Regulatory oversight should align with the risk profile of AI applications. High-risk domains such as health, defense, and finance require stringent supervision, while low-risk or experimental domains should be governed by flexible, sandbox-style mechanisms that encourage innovation without compromising safety.
   c. **Technical oversight infrastructure:** Establishing AI audit laboratories, algorithmic transparency protocols, and certification systems would operationalize enforcement.
   d. **Citizen redress and transparency mechanisms:** Public trust depends on clear, accessible channels for complaints, appeals, and disclosure of AI system decisions. Citizens must have avenues to seek redress or demand transparency when algorithmic harm occurs.
   e. **Cross-border enforcement mechanisms:** Beyond ASEAN cooperation, bilateral or multilateral frameworks should govern the traceability and accountability of AI models developed or deployed by foreign entities. This ensures parity in compliance expectations for both local and international actors.

Enforcement

Conclusion: Create Systems That Encourage Proper AI Usage

Overall, the enforcement group's recommendation is to incentivize industries and sectors to comply through an EO. The group acknowledged that each sector will have their own level of acceptable risk depending on their needs. The overarching goal in executing the EO should be to **guide each sector in creating their own rules** for proper AI usage.

Most importantly, time should be devoted to reviewing other laws and checking existing provisions with punitive measures to determine whether AI use falls within the ambit of these. In which case, amendments or the addition of aggravating circumstances should suffice instead of enacting completely new laws that focus on just AI. Integrating such enforcement mechanisms within the final legislative framework would help **balance innovation with public protection,** ensuring that AI deployment aligns with ethical and lawful standards.

Enforcement is about **making innovation sustainable.** By upgrading the legal stack through **agile executive action,** targeted statutory updates, and coordinated institutional capacity, while systematically addressing the gaps in legislative coherence, technical oversight, citizen redress, and cross-border accountability, the Philippines can transform "shadow AI" into a predictable, **rights-respecting ecosystem.** This shift, from unmanaged adoption to **accountable use,** is what will allow Filipino talent, firms, and public institutions to thrive in an AI-driven global economy.

In a nation where AI enthusiasm already outpaces infrastructure and ethics, enforcement is the policy lever that makes all other ambitions credible. Without it, even the best-engineered systems and most fluent citizens remain vulnerable to opaque power, unaccountable algorithms, and extractive platforms. With it, the Philippines can become a **model of agile, rights-based AI governance** in the Global South.

Process

Ethics

Hyper-Connected Yet Ethically Exposed

In ethics, the Philippines exemplifies a **"high-exposure, low-protection"** environment where digital enthusiasm dangerously outpaces ethical safeguards. With Filipinos being among the world's most digitally connected populations, we are simultaneously the most exposed to AI's risks for misinformation, political manipulation, opaque workplace surveillance, and algorithmic exploitation.

The ethical imperative is therefore not to limit AI adoption but to ensure it serves human dignity and collective well-being. Ethics cannot remain abstract philosophy; it must function as **practical defense** against already-visible harms. The Philippines' structural vulnerabilities, poverty, weak enforcement mechanisms, rampant online harassment, sophisticated fraud networks, and targeted information operations, become magnified when intersected with powerful AI systems that operate without explicit constraints.

Contextual Tensions: Where Values Meet Reality

The ethical ecosystem navigates four defining tensions:

1. **Sovereignty versus dependency:** The desire to create Filipino AI systems collides with deep reliance on foreign foundational models, creating a deceptive appearance of control while reinforcing infrastructural dependency.
2. **Innovation velocity versus ethical reflection:** The pressure to deploy AI rapidly outpaces our capacity to evaluate long-term societal impacts, especially on marginalized communities.

***Carl Javier facilitated the discussion** joined by: Victor Raimond Icasas, Carla Francesca Nobleza, Robert Ian Manalo Joseph III, Angela Chaves, and Ma. Consuelo Lagman.*

Ethics

3. **Universal principles versus contextual relevance:** Global AI ethics frameworks rarely account for Philippine specific vulnerabilities like geographic dispersion, linguistic diversity, and informal economic structures.
4. **Individual rights versus collective wellbeing:** Balancing personal autonomy and privacy against societal needs for safety, truth, and inclusion in an AI-mediated information ecosystem.

Policy Direction: Institutionalizing Community Involvement

The group discussed the specific implementation and nuances of the below policy positions.

Establish AI Ethics Officers in Organizations

One concrete measure that participants proposed to advance responsible AI adoption is the establishment of an AI Ethics Officer within organizations. This concept builds upon the precedent set by Data Protection Officers (DPOs) under the Data Privacy Act, extending accountability principles to the realm of AI.

AI Ethics Officers would be registered under a national AI Ethics Body. These officers would serve as **identifiable, accountable focal points** for all AI activities within their respective organizations. They would be responsible for ensuring compliance with ethical standards, overseeing responsible data use, and serving as liaisons between organizations and regulatory authorities.

However, several challenges to implementation must be addressed:

- The added workload for designated officers, especially in smaller organizations.
- The need for specialized training and periodic credential renewal to keep up with the fast-evolving AI landscape.
- The question of enforcement — what authority the Ethics Officer holds within the organization and how accountability is upheld.
- The need to ensure that such a policy does not disproportionately burden micro, small, and medium enterprises (MSMEs).

For larger AI-specialized organizations, the presence of existing ethics boards may offer a foundation. Nonetheless, these boards must serve as substantive governance mechanisms, not symbolic gestures. **Meaningful collaboration between AI Ethics Officers and internal ethics boards** is essential for genuine accountability.

Ethics

In addition to their roles in upholding accountability, compliance, and serving as liaisons, AI Ethics Officers should have access to regulated, confidential forums where they can **deliberate on ethical dilemmas, share insights, and align their practices with peers.** Participants also emphasized the importance of having all individuals or entities engaging in AI development or deployment undergoing a formal registration process, mirroring the principle of identifiability and accountability found in data privacy regulation.

Lastly, future foreign or private AI deployments should be required to undergo review and clearance through a registered AI Ethics Officer to ensure compliance with local ethical and human rights standards.

Building Inclusive Technology

The participants also discussed the ethical implications of **representation, inclusion, and the digital divide** within the nation.

Firstly, ethical AI governance must confront the persistent digital divide that shapes access to technology in the Philippines. Nationally, several communities, especially last-mile communities, have limited access to basic technology like internet connectivity and mobile devices. A significant portion of the population remains disconnected or technologically underserved, effectively excluded from participation in AI innovation. This inequity raises fundamental moral questions about who benefits from AI and who is left behind.

Addressing this requires **proactive efforts to democratize access,** develop localized AI models, and ensure that AI policies are both **inclusive and contextually grounded.**

Narrowing the digital divide and democratizing access to the technologically underserved is also connected to applying a Human Rights-Based Approach (HRBA) to policymaking and technology deployment. **No AI system or policy should be implemented without genuine community consultation or opportunities for public feedback.**

Past cases such as the Non-Contact Apprehension Program (NCAP)[16] and the SIM Card Registration Act[17] demonstrate the consequences of top-down implementation without sufficient dialogue or safeguards. In both cases, the laws were rolled out without any regard for feedback from the end users.

[16] *Supreme Court of the Philippines, Press Briefer, May 20, 2025, regarding partial lifting of TRO on NCAP.*

[17] *National Telecommunications Commission (NTC), "Rules and Regulations of SIM Registration Law (IRR)," released Dec. 12, 2022.*

Ethics

Similarly, the Tools for Humanity retinal scan project[18] raised critical data privacy and consent concerns. In this project, participants reportedly offer biometric data (retinal scans) without a full understanding of the risks of digital identity theft. These examples illustrate the importance of **proportionality, informed consent, and transparency in the deployment of AI systems,** especially in vulnerable or low-literacy communities.

Cultural and Linguistic Ethics

The Philippines, with its diverse linguistic and cultural landscape, must adopt a **culturally grounded** approach to AI. It would not suffice to replicate policies from Western countries, as their cultures widely differ from the Philippines'. One such example of developing a culturally grounded approach to AI would be developing smaller, domain-specific language models trained on Filipino data. This presents opportunities to preserve local languages and cultural identity. However, this also raises questions about cultural representation. What should AI systems reflect? The Filipinos' lived realities, periodic evolution, or idealized notions of Filipino identity? Such questions can only be answered through **community consultation and participatory design processes,** ensuring AI development aligns with national identity and values.

Adjacent to this proposition is the idea of **building sovereign AI.** Currently, two dominating narratives about building sovereign Filipino AI ring defeatist: first, that the Philippines' data management and digitalization is too rudimentary for building sovereign AI; and second, that the Philippines cannot afford to build foundational models like those of the West or China, and therefore should settle for being consumers of these products. The panel insists that the **broad and open source, collaborative nature of AI development** offers the Philippines opportunities to build and innovate.

The nationwide lack of data management and sophisticated digitalization necessary for successful AI deployment highlights the need for more systematic, policy-driven, and incentivized projects to build better data projects.

Aligned with the idea of building smaller, domain-specific language models trained on Filipino data is the proposal to build a network of **small, local models** that can meet various needs and uses. Filipino users—ranging from students to companies—can benefit from these models without having to subscribe to foundational models built by Big Tech companies, such as Google, Meta, and OpenAI, or Chinese ecosystems.

[18] *Tools for Humanity, "Privacy Notice," Tools for Humanity Legal Center, describing how the Orb captures iris data, generates an anonymized iris code via MPC, encrypts and deletes raw images, and stores only encrypted fragments, https://www.toolsforhumanity.com/legal/privacy-notice.*

Ethics

These small, localized models are also easier to make available for free or at a lower cost than its Big Tech counterparts. This allows low-resource individuals and teams to have access to models that they can begin working from, encouraging innovation and experimentation. This creates a patchwork of different models made accessible and equitable to Filipino builders.

Sustainable AI

Current large-scale models developed by global technology firms demand immense computational power and energy, raising environmental and ethical concerns. Given these limitations, the Philippines should invest in "Green AI". This refers to **smaller, resource-efficient, and community-oriented models** that balance innovation with ecological responsibility.

This approach aligns with the nation's sustainability goals and fosters independence from large, foreign AI systems that may not reflect local realities.

Implementation Architecture: Institutionalizing Ethics in AI Policymaking

To institutionalize ethics within AI policy, the government and private sector must allocate dedicated funding for:

- Ethics research and education programs
- Capacity building for AI Ethics Officers, including continuous learning and certification
- Whistleblower protection mechanisms and ethical grievance systems
- Mental health research on the impacts of AI, including age-appropriate and responsible AI use guidelines

Supporting these structures ensures that AI development in the Philippines remains not only innovative but also ethical, equitable, and sustainable.

Recommendations for Further Discussion

Beyond specific policy recommendations discussed above, further discussions on the following would be valuable in navigating the Philippines' unique contextual tensions:

1. **Prioritize Small-Scale, Purpose-Built AI for Cultural Preservation:** Endangered language preservation through specialized AI models; cultural knowledge digitization to serve as ethically sourced training data; and specialized assistants such as fact-checking bots trained on Filipino media archives.

Ethics

2. **Leverage and Strengthen Existing Local Governance Structures:** Designating members within municipal and city IT council as AI ethics focal points; LGU-led ethical reviews of AI deployments; and establishing formal community validation protocols to ensure local voices shape technological interventions.
3. **Invest in Human Infrastructure and Grassroots Capacity:** Mandated government-wide AI literacy; the creation of local AI innovation hubs such as innovation sandboxes; and deploying grassroots tech ambassadors to rural and underserved areas.
4. **Promote Open, Locally Hosted Infrastructure with Ethical Data Sourcing:** Prioritize open-source model adoption; create ethical data licensing frameworks (e.g. adapting the Philippine Collective Management Organization framework for music royalties to compensate creators whose work trains AI systems); and digitize our national knowledge repository to serve as ethically sourced training data for representative local models.
5. **Completing the Ethics Ecosystem:** Several areas require dedicated attention to complete a coherent ethics ecosystem:
   a. **Rights enforcement mechanisms:** Develop concrete pathways for remedy and due process when people are harmed by AI systems.
   b. **Balanced ethical principles:** Create structured frameworks for navigating tensions between competing values (e.g. individual privacy versus public safety, innovation versus precaution, efficiency versus equity) through a transparent deliberation process.
   c. **Full AI life cycle governance** (i.e. through the five layers of training data, algorithm, inference, publication, and societal impact): This can include mandatory transparency protocols, bias mitigation requirements, and post-deployment monitoring.
   d. **SDG-aligned AI development:** Connect AI ethics to all Sustainable Development Goals to serve holistic human and planetary flourishing rather than narrow economic metrics.

Conclusion: Ethics as Our Collective Defense

In a nation where citizens are among the world's most enthusiastic AI adopters yet remain structurally vulnerable, ethical frameworks aren't abstract philosophy but practical protection.

The path forward honors both **grassroots wisdom and systemic necessity.** By prioritizing small-scale, culturally relevant AI tools and empowering local governance structures, we build from the ground up rather than imposing top-down solutions. By investing in human capacity and open infrastructure, we counter dependency while ensuring fair compensation for creators.

Ethics

And by deliberately addressing the gaps in rights enforcement, ethical balance, lifecycle governance, and sustainable development, we create systems that **protect not just today's users but tomorrow's generations.**

This ethical foundation enables the other 3Es: it gives Education purpose beyond skills acquisition, makes Engineering meaningful beyond infrastructure construction, and gives Enforcement moral authority beyond compliance checking. When ethics leads rather than follows technological development, we ensure that AI becomes not just a tool for efficiency but a **force for justice** protecting the vulnerable while empowering the marginalized

In a world searching for trustworthy AI governance models, the Philippines has an opportunity to demonstrate that ethical technology isn't just possible in developing economies, but it's essential. By centering **human rights while embracing innovation,** we can build AI systems that don't just work well, but do good a vision that resonates across our archipelago and throughout the Global South.

Conclusion

AI use in the Philippines is rapidly expanding, yet its governance remains fragmented.

Parallel legislative efforts in Congress and the Senate have created overlaps, contradictions, and regulatory confusion. Without robust infrastructure—spanning data systems, power distribution, connectivity, and digital literacy—the Philippines is not yet equipped for large-scale AI integration.

Yet despite these challenges, **AI holds immense** potential to improve education, drive innovation, and enhance human welfare. The country's focus, therefore, should not be on restricting AI use but on crafting **balanced, ethical, and enabling policies** that foster responsible innovation for national development.

Across four critical dimensions, this roundtable has surfaced a consistent pattern: Filipinos aren't waiting for permission to embrace AI. They're already using it at rates that exceed global averages. The question isn't whether AI will reshape Philippine society, because it already has. The question is whether we will **shape AI to our benefit,** or remain perpetual consumers of systems designed elsewhere, for other contexts, serving other values.

Conclusion

The Four Pillars: Interconnected by Design

The 4E Framework—Education, Ethics, Engineering, and Enforcement—emerged from these discussions not as isolated policy domains but as **deeply interconnected imperatives** that must move in concert.

Education without Ethics produces technically capable citizens who lack the moral grounding to resist exploitation or recognize harm. We risk creating a generation fluent in AI tools but illiterate in their societal consequences.

Ethics without Engineering remains abstract philosophy disconnected from implementation reality. Noble principles mean nothing if the infrastructure to realize them doesn't exist or remains controlled by foreign entities.

Engineering without Enforcement builds powerful systems with no accountability mechanisms. Even the most sophisticated sovereign infrastructure becomes dangerous without legal frameworks that define boundaries and consequences.

Enforcement without Education creates punitive systems that stifle innovation rather than guide it. Rules without understanding generate compliance theater instead of meaningful protection.

Only when these **four pillars advance together in a coordinated way** can we transform the "fast adopter, slow builder" paradox into sustainable competitive advantage.

The Choice Before Us

The Philippines faces a choice between passive consumption and active creation. We can continue as enthusiastic consumers of AI systems designed elsewhere—accepting the risks, dependencies, and cultural mismatches that entails. Alternatively, we can become **deliberate architects of our own AI future** by investing in sovereign infrastructure, cultivating local talent, establishing protective frameworks, and ensuring technology serves Filipino values and development priorities.

The path forward requires us to invest when budgets are tight, to regulate without stifling, to experiment despite uncertainty, to coordinate across competing agencies, and to prioritize long-term sovereignty over short-term convenience.

Conclusion

The alternative, which is continuing down a path of technological dependency, carries far greater risks. In a world where AI increasingly mediates access to information, economic opportunity, and civic participation, sovereignty requires the capacity to shape these systems rather than simply use them.

The vision articulated across these sessions is that the Philippines must pivot from being AI consumers to becoming proactive AI co-creators. This is a recognition that sovereignty in the 21st century requires **technological self-determination.**

This means:

- Filipino students learning not just to use AI tools but to build them, trained on datasets that reflect our languages, cultures, and development priorities.
- Filipino workers transitioning into new roles that leverage AI as augmentation rather than replacement.
- Filipino engineers designing infrastructure that operates reliably under Philippine conditions—resilient to power outages, accessible across archipelagic geography, powered by renewable energy.
- Filipino ethicists shaping principles grounded in our communal values rather than importing frameworks designed for individualistic Western contexts.
- Filipino policymakers crafting adaptive governance that encourages innovation while protecting the vulnerable.

A Roadmap for Action: Strategic Priorities

Based on the comprehensive discussions across all four pillars, we propose the following strategic priorities for immediate action:

Immediate Horizon (0-12 months)

1. Issue a **Presidential Executive Order on AI Governance** articulating core principles (data privacy, human over sight, transparency, accountability) that industries can adapt while comprehensive legislation develops.
2. Establish the **AI in Education Council** co-chaired by DOST and DepEd to coordinate policy across agencies and prevent fragmented implementation.
3. Launch the **National AI Literacy Campaign** with family integration, reaching parents, teachers, and students simultaneously through barangay-based hubs.
4. Create **AI Regulatory Sandboxes** in partnership with academic institutions to enable controlled experimentation with mandatory ethical review.
5. Mandate **machine-readable government data publication** with standardized formats and APIs to democratize access for AI training and civic innovation.

Conclusion

Medium-term Horizon (1-3 years)

1. Deploy **Strategic Renewable Energy Corridors** directly connected to regional AI hubs and data centers, treating energy resilience as core to digital sovereignty.
2. Establish the **National AI Ethics Body** with mandatory registration of AI Ethics Officers across organizations, mirroring Data Protection Officer precedents.
3. Build **Sovereign Data Hosting Infrastructure** ensuring sensitive national data remains within jurisdictional boundaries with international security standards.
4. Launch the **National AI Reskilling Fund** through public-private partnerships supporting mid-career professionals pursuing AI-adjacent upskilling.
5. Legitimize **Community Connectivity Networks** through legal recognition, spectrum sharing for cooperatives, and simplified permitting.

Long-term Horizon (3-5 years)

1. Develop **Filipino Language AI Corpus** through government-university partnerships creating culturally relevant models trained on local datasets.
2. Expand DOST-ASTI into a **National Compute Utility** with guaranteed access tiers for LGUs, SUCs, and Filipino startups.
3. Create **Sectoral Dataset Libraries** prioritizing health, agriculture, disaster response, and transportation with standardized documentation.
4. Establish **ASEAN AI Governance Treaties** enabling coordinated enforcement against foreign entities violating ethical standards.
5. Build the **National Skills Recognition Architecture** linking TESDA, CHED, and DOLE databases to enable stackable micro-credentials and competency-based hiring.

The **roundtable discussions captured** in this white paper represent not an endpoint but a **beginning.** The frameworks, tensions, barriers, and policy directions identified here provide a foundation. **But foundations require construction.**

We call on:

- **Government agencies** to move beyond turf protection toward genuine coordination
- **Legislative bodies** to adopt agile lawmaking mechanisms that match the pace of technological change
- **Enforcement authorities** to prioritize capacity building and compliance systems
- **Educational institutions** to reimagine curricula for an AI-native generation
- **Technology companies** to invest in local capacity rather than extractive practices
- **Civil society organizations** to demand accountability and inclusive design
- **International partners** to support sovereignty-building rather than dependency-deepening
- **Filipino citizens** to engage as active shapers of technology rather than passive recipients

Conclusion

The Philippines has never lacked digital enthusiasm. What we lack is the deliberate policy infrastructure to transform that enthusiasm into sustainable advantage. The 4E Framework provides a roadmap. The implementation architecture offers mechanisms. The policy priorities establish clear sequencing.

The paradox of high adoption and low readiness need not be permanent.

With coordinated action across Education, Ethics, Engineering, and Enforcement, we can build an AI ecosystem that is simultaneously innovative and protective, globally competitive and locally grounded, technologically sophisticated and humanely governed.

The future isn't something that happens to us. It's something we build **deliberately, inclusively,** and with full recognition that the **choices we make today about AI** will **reverberate across generations.**

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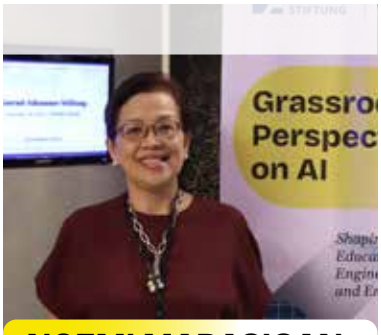

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References

Cabinet Office, Government of Japan. (n.d.). Society 5.0: What is Society 5.0? Retrieved November 18, 2025, from
https://www8.cao.go.jp/cstp/english/society5_0/index.html

Delgado, G. A. A. (2025, August 18). The big hurdle to PH's AI data center future. Insider PH.
https://insiderph.com/insider-view-the-big-hurdle-to-phs-ai-data-center-future

European Commission. (2024, August 1). AI Act enters into force.
https://commission.europa.eu/news/ai-act-enters-force-2024-08-01_en

House of Representatives, Republic of the Philippines. (2025). House Bill No. 3214: Deepfake Regulation Act (20th Congress).
https://docs.congress.hrep.online/legisdocs/basic_20/HB03214.pdf

Infocomm Media Development Authority (IMDA) & Personal Data Protection Commission (PDPC). (2020, January 21). Model Artificial Intelligence Governance Framework (2nd ed.).
https://www.imda.gov.sg/resources/press-releases-fact-sheets-and-speeches?page=1&support=all&type=all&year=all

Ligot, D. A. (2024). AI governance: A framework for responsible AI development. SSRN.
https://doi.org/10.2139/ssrn.4817726

Ligot, D. V. (2024, November 2). Generative AI safety: A layered framework for ensuring responsible AI development and deployment. SSRN.
https://ssrn.com/abstract=5008853

Ligot, D. V., Tajale, F., Gaffud, C., & Angcot, J. (2024, December 31). IT-BPM adoption of artificial intelligence: Highlights from IBPAP member survey. SSRN.
https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5348837

Malaysia Ministry of Science, Technology and Innovation. (2023). National Guidelines on AI Governance & Ethics (AIGE).
https://www.mosti.gov.my/web/wp-content/uploads/2023/10/Na-tio-nal-Guidelines-on-AI-Governance-and-Ethics-AIGE.pdf

Microsoft & LinkedIn. (2024, May 23). 2024 Work Trend Index on AI use at work in the Philippines. Microsoft News Center Philippines.
https://news.microsoft.com/en-ph/2024/05/23/microsoft-and-lin-kedin-release-2024-work-trend-index-on-ai-use-at-work-in-the-philippines/

References

National Telecommunications Commission. (2022, December 12). Rules and regulations of SIM Registration Law (IRR).
https://ntc.gov.ph/wp-content/uploads/2022/mc/NTC%20MC%20No.%20001-12-2022.pdf

Oxford Insights. (2023). Government AI Readiness Index 2023.
https://oxfordinsights.com/wp-content/uploads/2023/12/2023-Government-AI-Readiness-Index-1.pdf

Senate of the Philippines. (2025). Senate Bill No. 782: Physical Identity Protection Act (20th Congress).
https://legacy.senate.gov.ph/lis/bill_res.aspx?congress=20&q=SBN-782

Supreme Court of the Philippines. (2025, May 20). Press briefer.
https://sc.judiciary.gov.ph/press-briefer-may-20-2025/

Tools for Humanity. (n.d.). Privacy notice.
https://www.toolsforhumanity.com/legal/privacy-notice

UNESCO. (n.d.). Philippines country profile. Global AI Ethics & Governance Observatory.
https://www.unesco.org/ethics-ai/en/philippines

Vietnam Ministry of Information and Communications. (2022, December 7). Decision No. 2259/QĐ-BTTTT: Strategy for developing and applying artificial intelligence by 2030.
https://www.mic.gov.vn/Pages/TinTuc/146707/Decision-No--2259-QD-BTTTT-approving-the-strategy-for-developing-and-applying-artificial-intellige

The White House. (2023, October 30). Fact sheet: President Biden issues Executive Order on safe, secure, and trustworthy artificial intelligence.
https://bidenwhitehouse.archives.gov/briefing-room/presidential-actions/2023/10/30/executive-order-on-the-safe-secure-and-trustworthy-development-and-use-of-artificial-intelligence/

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