

***FROM PRINCIPLES TO PRACTICE: HOW COUNTRIES TRANSLATE AI
ETHICS INTO REGULATION AND IMPLEMENTATION—A
COMPARATIVE STUDY***

Dr. Jyoti Ka.Patel, Assistant Professor,
Institute of Language Studies and Applied Social Sciences (ILSASS)

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Abstract

Artificial Intelligence (AI) ethics has rapidly matured from aspirational principles into concrete governance instruments—laws, directives, technical standards, and implementation toolkits. Yet countries translate ethics into practice in markedly different ways, shaped by political institutions, legal traditions, market structures, and social priorities. This comparative study examines how selected jurisdictions operationalise AI ethics through regulatory design and implementation mechanisms. Using documentary policy analysis, the paper maps global ethical “soft law” (UNESCO and OECD) to “hard law” and governance tools across the European Union, Canada, Singapore, China, the United States, and India. The findings show growing convergence around transparency, accountability, human oversight, safety, and risk management, but persistent divergence in enforcement models: rights-based regulation (EU), procedural accountability for public sector decisions (Canada), industry-facing governance frameworks (Singapore), security- and content-centred oversight of generative AI (China), executive-led and politically variable governance (US), and privacy-first foundational regulation influencing AI deployments (India). The paper proposes an implementation-oriented comparative framework—Ethics-to-Operations Translation (EOT)—to help researchers and institutions evaluate real-world governance capacity, not merely ethical intent. The conclusion outlines practical implications for Indian higher education and conference-facing research institutions, including research governance, curriculum design, and institutional AI use policies.

Keywords: AI governance, ethics, regulation, implementation, comparative policy, trustworthy AI, generative AI

Introduction

AI ethics has become a global vocabulary—fairness, transparency, accountability, safety, human oversight—yet the practical meaning of these terms varies widely. The reason is simple: ethics is not self-executing. Moving from ethical principles to everyday practice requires translation into enforceable rules and operational routines: risk classifications, audits, documentation duties, model evaluation, incident reporting, procurement safeguards, and redress systems. Countries now compete not only on AI innovation, but also on governance credibility—how convincingly they can prevent harm while enabling beneficial deployment.

This paper studies *how* AI ethics gets translated into regulation and implementation across countries. It is written for an international conference context where the primary contribution is comparative: identifying patterns, differences, and policy design logics that help explain why some governance models prioritise rights, others prioritise state security, and others aim for industry-friendly adoption. The analysis focuses on six policy settings that have become reference points in international discussions: the European Union (EU), Canada, Singapore, China, the United States (US), and India. The EU's AI Act represents a landmark risk-based regulatory model with prohibited practices and strict obligations for high-risk systems. Digital Strategy+1 Canada's approach is distinctive for requiring a mandatory Algorithmic Impact Assessment (AIA) for public-sector automated decision systems. Canada+1 Singapore offers implementable governance frameworks that aim to shape industry practice through structured guidance, including a model framework for generative AI. AI Verify Foundation+1 China has binding measures for generative AI services and is advancing new regulatory proposals for emotionally interactive AI, showing an evolving, security-conscious governance posture. China Law Translate+1 The US illustrates executive-led governance that can shift with political cycles; notably, Executive Order 14110 (issued in 2023) was rescinded in January 2025. NIST+1 India, meanwhile, is building foundational data protection rules that shape AI deployment conditions, recently supported by DPDP Rules 2025, which operationalise the DPDP Act's privacy architecture. MeitY+1

The core research questions are:

1. What ethical principles recur across global and national AI governance documents?
2. Through what regulatory designs (laws, directives, frameworks) are these principles translated?
3. What implementation mechanisms (tools, duties, oversight) make the translation operational?

4. What comparative lessons emerge for institutions in India that engage with global AI governance debates?

Conceptual Background: From Ethics to Governance Capacity

International AI ethics frameworks often read as values statements: they define what “good” AI should be, without specifying how compliance is achieved. UNESCO’s Recommendation emphasises human rights and dignity as a cornerstone and highlights principles such as transparency, fairness, and human oversight. UNESCO+1 OECD’s AI Principles—an intergovernmental standard—promote innovative and trustworthy AI that respects human rights and democratic values, and provide policy recommendations. OECD+1 These “soft law” norms increasingly shape national policies, but do not themselves create enforcement.

To evaluate translation, this paper proposes an **Ethics-to-Operations Translation (EOT)** lens with three layers:

Layer A: Norms (Principles).

Ethical commitments: fairness, transparency/explainability, accountability, safety, privacy, human oversight, and contestability/redress.

Layer B: Governance Instruments (Rules).

Legal acts, executive orders, directives, regulatory measures, and sectoral regulations that define obligations and prohibited practices.

Layer C: Implementation Mechanisms (Routines).

Concrete practices: impact assessments, risk classification, documentation duties, testing and evaluation, human oversight requirements, post-market monitoring, auditability, and complaint/redress systems.

EOT treats “implementation” not as a final stage but as the defining test of governance credibility. A framework can be ethically attractive yet operationally weak if it lacks enforcement capacity, measurable duties, or institutional accountability.

Methodology

This is a **comparative qualitative policy study** using documentary analysis. Primary and authoritative sources include official government or institutional pages and key regulatory texts: EU AI Act summaries and resources on prohibited practices; Canada’s AIA tool documentation; Singapore’s Model AI Governance Framework and its generative AI

framework; China's Interim Measures for generative AI services and reputable reporting on emerging draft rules; US Federal Register publication of Executive Order 14110 and official documentation confirming its rescission; and India's DPDP Act and DPDP Rules. MeitY+5Digital Strategy+5Canada+5

Cases were selected for **maximum variation**: different political systems, regulatory philosophies, and implementation strategies. The comparison is not intended to rank countries but to identify design logics and transferable lessons.

Case Studies: How Ethics Becomes Practice

European Union: Rights-anchored, Risk-based Law (EU AI Act)

Ethical anchoring. The EU's approach is explicitly tied to fundamental rights, human safety, and public interest protections. Rather than relying mainly on voluntary commitments, the EU operationalises ethics through a structured legal system.

Regulatory translation. The EU AI Act is widely described as a risk-based regime. A core feature is the identification of **prohibited practices** and strict duties for **high-risk AI systems**, along with transparency obligations for other categories. Official EU policy communications list prohibited practices such as harmful manipulation or exploitation of vulnerabilities, social scoring, untargeted scraping to build facial recognition databases, emotion recognition in workplaces and educational institutions, and biometric categorisation for sensitive traits. Digital Strategy+1

Implementation mechanisms. The EU model translates ethics into operational compliance duties—documentation, risk management, human oversight, and post-market monitoring—especially for high-risk systems. Summaries of the Act highlight the expectation that high-risk AI should meet “mandatory requirements” before being placed on the market, reinforcing the idea that governance is tied to lifecycle obligations rather than one-time certification. aiact-info.eu+1

Why this matters comparatively. The EU's strength lies in legal clarity and enforceability, but the compliance burden can be substantial, and implementation capacity (auditing, oversight) becomes the practical bottleneck. The EU model represents a “hard law” approach where ethical values are made actionable through risk categories, bans, and compliance obligations.

Canada: Procedural Accountability via Mandatory Impact Assessment (Public Sector)

Ethical anchoring. Canada foregrounds fairness, accountability, and protection of citizens interacting with state systems. The focus is not only on model behaviour but also on the administrative justice of decisions produced using automation.

Regulatory translation. Canada operationalises ethics through the **Directive on Automated Decision-Making**, supported by the **Algorithmic Impact Assessment (AIA)**.

Implementation mechanism: AIA as a governance tool. The AIA is described as a **mandatory risk assessment tool** and structured questionnaire intended to determine the impact level of an automated decision system. It includes **risk and mitigation questions**, and scoring considers system design, decision type, impacts, and data. Canada+1 This is a practical example of ethics turning into an administrative routine: before deployment, government departments must assess potential harms and document mitigation.

Why this matters comparatively. Canada's approach illustrates that implementation can be institutionalised through a tool rather than a comprehensive AI statute. It is also significant because it targets *public sector accountability*, a domain where the state's duty to fairness and transparency is especially strong. For India and other countries, this model is instructive for welfare delivery, admissions, recruitment, and citizen-facing services.

Singapore: Implementation-first Governance Frameworks (Industry Adoption)

Ethical anchoring. Singapore's policy language strongly emphasises human-centric AI, explainability, transparency, and fairness, aiming to build public trust while enabling innovation.

Regulatory translation. Singapore is known for using governance frameworks designed to be implementable by organisations. The **Second Edition of the Model AI Governance Framework** provides guidance that supports internal governance structures, risk management routines, and accountable deployment. Official resources describe the second edition as released in January 2020 and emphasise that decisions made by AI should be explainable, transparent, and fair, and that systems should be human-centric. Infocomm Media Development Authority+1

Generative AI governance. Singapore also released a **Model AI Governance Framework for Generative AI**, designed to extend governance principles to the generative context. The document itself notes continuity with the earlier framework while extending considerations for generative systems. AI Verify Foundation+1

Implementation mechanisms. Singapore's model offers practical steps: defining internal roles, creating SOPs to monitor risks, training staff, and clarifying accountability across the AI lifecycle. Infocomm Media Development Authority Compared to purely legislative approaches, this implementation-first model can diffuse quickly into industry practice, though enforceability depends on adoption incentives, procurement requirements, and sector regulators.

China: Binding Rules for Generative AI and Expanding Oversight of Human-like Interaction

Ethical anchoring. China's AI governance is strongly shaped by security, content governance, and state responsibility across the product lifecycle. Ethical language is often integrated with stability and compliance requirements.

Regulatory translation: Interim Measures for Generative AI. China's **Interim Measures for the Management of Generative Artificial Intelligence Services** constitute binding governance for public-facing generative AI services. An accessible translation indicates promulgation in July 2023, with the measures being a key regulatory document for generative AI services. China Law Translate+1

Implementation mechanisms. The measures emphasise service provider responsibilities, content controls, and governance across the lifecycle. Secondary analyses and summaries note multi-agency involvement and entry into force in August 2023. Future of Privacy Forum+1

Evolving governance: emotionally interactive AI. China's governance is also evolving in response to consumer-facing AI that simulates human personalities and emotional interaction. Reuters reported draft rules (December 27, 2025) proposing safety responsibilities across the lifecycle, algorithm review systems, data security and personal information protection, and interventions to address problematic user dependence. Reuters

Why this matters comparatively. China demonstrates a governance style where ethics-to-practice translation is tightly linked to content boundaries, platform responsibilities, and state oversight. This contrasts with the EU's rights-based framing and Canada's procedural fairness in public administration.

United States: Executive-led Governance and Policy Volatility

Ethical anchoring. US governance has often combined innovation leadership goals with concerns about safety, civil liberties, and national security. However, the approach has been less centralised in a single statute.

Regulatory translation: Executive Order 14110. Executive Order 14110 (October 30, 2023) was published in the Federal Register, representing a major executive initiative for safe, secure, and trustworthy AI. Federal Register Yet a key feature of executive-led governance is vulnerability to political change: official documentation from NIST notes that EO 14110 was rescinded on January 20, 2025. NIST The White House also published a January 23, 2025 order framing the revocation of certain AI policies as removing barriers to American AI leadership. The White House

Implementation implications. The US case is a crucial counterpoint: a governance model can be ambitious in ethical language but unstable if it depends heavily on executive instruments rather than durable legislation. For international comparisons, this shows how political institutions shape the reliability of ethics-to-practice translation.

India: Privacy-first Foundations and Operationalisation through DPDP Rules 2025

Ethical anchoring. India's governance environment for AI is increasingly shaped by privacy, consent, and responsible data use. While India does not yet have an EU-style comprehensive AI act, its data protection law creates binding constraints and responsibilities that directly affect AI training, deployment, and data handling.

Regulatory translation: DPDP Act 2023 and DPDP Rules 2025. The **Digital Personal Data Protection Act, 2023** establishes a framework for processing digital personal data that recognises individuals' rights and lawful purposes for data processing. MeitY In November 2025, India notified DPDP Rules 2025, described in an official PIB document as marking full operationalisation of the DPDP framework and strengthening privacy protection and responsible data use. Press Information Bureau Reuters also reported (November 2025) that new privacy rules require data minimisation, clearer purposes, opt-out options, and breach notification obligations, indicating a more enforceable operational layer. Reuters

Implementation mechanisms. India's DPDP framework affects AI through consent management, purpose limitation, breach reporting, and protections for children's data—issues that become central where AI systems use personal data at scale. As a comparative case, India illustrates how a privacy regime can function as a governance "spine" even without a dedicated AI act.

Comparative Findings: Convergence and Divergence in Ethics-to-Practice Translation

Convergence: Shared Ethical Priorities

Across cases, there is increasing convergence around a core set of ethical priorities—consistent with UNESCO and OECD principles:

- **Human rights and dignity** as a baseline for ethical AI governance (explicit in UNESCO). UNESCO+1
- **Trustworthy AI** framed as compatible with innovation and democratic values (explicit in OECD). OECD+1
- **Transparency/explainability and accountability** operationalised through documentation, impact assessments, and risk management obligations (EU high-risk compliance duties; Canada's AIA; Singapore's governance guidance). Canada+2 Infocomm Media Development Authority+2

This convergence suggests that the global discourse has moved beyond abstract ethics: countries increasingly accept that AI systems require lifecycle governance and institutional accountability.

Divergence: Enforcement Design and State–Market Relations

Despite shared principles, translation differs in three major ways:

(A) Legal enforceability vs. guided adoption.

- EU: binding, rights-anchored “hard law” with prohibited practices and high-risk duties. Digital Strategy+1
- Singapore: implementable frameworks aiming for uptake and best practices, including guidance for generative AI. AI Verify Foundation+1

(B) Focus domain: citizens vs. consumers vs. state security.

- Canada: citizen-facing public administration and procedural fairness (AIA). Canada
- China: platform responsibility, content boundaries, and social stability; expanding regulation to emotionally interactive AI. China Law Translate+1

(C) Governance stability.

- US: executive-led governance can change rapidly; EO 14110 rescinded in 2025, illustrating policy volatility. NIST+1
- EU/Canada: comparatively more stable due to legislative/regulatory institutionalisation.

Discussion: What “Implementation” Really Means

Implementation is where ethical governance succeeds or fails. In practice, “ethics-to-implementation” translation depends on capacity in at least five areas:

1. **Risk identification** (what counts as high-risk, unacceptable, or impactful).

2. **Documentation and auditability** (ability to inspect model logic, data governance, and performance).
3. **Human oversight** (clear responsibility, escalation pathways, and accountability).
4. **Post-deployment monitoring** (incident reporting, drift detection, and corrective measures).
5. **Redress and contestability** (channels for complaints, explanations, and remedies).

The EU is strongest on formal risk categories and legal duties, Canada is strongest on structured procedural assessment for public systems, and Singapore is strongest on implementable governance guidance. China is strong on platform obligations and content governance, while the US illustrates how political design affects continuity. India's privacy regime provides constraints and safeguards that indirectly govern AI behaviour through data handling.

Implications for Indian Higher Education and Conference-facing Institutions (with relevance to Gujarat)

For institutions such as C. B. Patel Arts College (Nadiad) and affiliated academic communities, international AI governance is not only a policy topic but also a research governance and educational responsibility. Three practical implications follow:

Institutional AI Use Policies and Research Integrity

Universities should develop internal policies for AI use in teaching, assessment, and research—especially around transparency of AI assistance, authorship accountability, and data privacy. India's operationalised DPDP regime underscores that institutions must treat personal data governance as part of AI readiness. MeitY+1

Curriculum as Governance Capacity

International perspectives show that AI governance requires interdisciplinary literacy: legal thinking (rights, liability), sociological insight (bias, inequality), and administrative design (impact assessment). UNESCO's human-rights focus supports embedding ethics as a curriculum spine rather than an elective topic. UNESCO+1

Research Agenda: Comparative Governance + Indian Context

A strong conference contribution is to localise comparative findings: how could an "impact assessment" tool (Canada) be adapted for Indian public systems? Canada How should educational institutions interpret EU-style restrictions on emotion recognition in education

contexts, especially as AI-based proctoring and student analytics expand? Artificial Intelligence Act+1 These are ripe research problems for Indian social sciences and humanities, including policy evaluation, ethics, and technology-in-society studies.

Conclusion

This paper argues that AI ethics becomes meaningful only when translated into operational governance—rules, duties, and routines that shape real deployments. A comparative view reveals global convergence around transparency, accountability, safety, and human oversight, but persistent divergence in enforcement design: the EU’s rights-based legal compliance model, Canada’s mandatory procedural assessment in the public sector, Singapore’s implementable industry frameworks, China’s binding generative AI regulation and evolving oversight of emotionally interactive AI, the US’s politically variable executive-led approach, and India’s privacy-first operational governance through DPDP rules. The proposed Ethics-to-Operations Translation (EOT) lens helps evaluate governance capacity beyond slogans by focusing on risk classification, impact assessment, auditability, lifecycle monitoring, and redress. For Indian academic institutions engaging global conferences, the practical next step is to treat AI governance as an institutional competency—integrating privacy compliance, research integrity, and interdisciplinary curriculum—so that AI is discussed not only as innovation, but as a social system requiring accountable design.

REFERENCES

- Canada, Government of. “Algorithmic Impact Assessment Tool.” *Canada.ca*, n.d., <https://www.canada.ca/en/government/system/digital-government/digital-government-innovations/responsible-use-ai/algorithmic-impact-assessment.html>.
- China Law Translate. “Interim Measures for the Management of Generative Artificial Intelligence Services.” *China Law Translate*, 2023, <https://www.chinalawtranslate.com/en/generative-ai-interim/>.
- European Commission. “AI Act: Regulatory Framework on Artificial Intelligence.” *Shaping Europe’s Digital Future*, n.d., <https://digital-strategy.ec.europa.eu/en/policies/regulatory-framework-ai>.
- European Union. “Article 5: Prohibited AI Practices.” *Artificial Intelligence Act*, n.d., <https://artificialintelligenceact.eu/article/5/>.
- Federal Register. “Executive Order 14110 of October 30, 2023: Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence.” *Federal Register*, 1

- Nov. 2023, <https://www.federalregister.gov/documents/2023/11/01/2023-24283/safe-secure-and-trustworthy-development-and-use-of-artificial-intelligence>.
- MeitY, Government of India. *The Digital Personal Data Protection Act, 2023*. No. 22 of 2023, 2023, Ministry of Electronics and Information Technology, <https://www.meity.gov.in/static/uploads/2024/06/2bf1f0e9f04e6fb4f8fef35e82c42aa5.pdf>.
- National Institute of Standards and Technology. "Executive Order on Safe, Secure, and Trustworthy Artificial Intelligence (EO 14110)." *NIST*, n.d., <https://www.nist.gov/artificial-intelligence/executive-order-safe-secure-and-trustworthy-artificial-intelligence>.
- OECD. "AI Principles." *OECD*, n.d., <https://www.oecd.org/en/topics/ai-principles.html>.
- OECD. *Recommendation of the Council on Artificial Intelligence*. OECD/LEGAL/0449, 2019, <https://legalinstruments.oecd.org/api/print?id=648&lang=en>.
- Reuters. "China Issues Draft Rules to Regulate AI with Human-Like Interaction." *Reuters*, 27 Dec. 2025, <https://www.reuters.com/world/asia-pacific/china-issues-drafts-rules-regulate-ai-with-human-like-interaction-2025-12-27/>.
- Reuters. "India Strengthens Privacy Law with New Data Collection Rules." *Reuters*, 14 Nov. 2025, <https://www.reuters.com/sustainability/boards-policy-regulation/india-strengthens-privacy-law-with-new-data-collection-rules-2025-11-14/>.
- Singapore. "Model AI Governance Framework for Generative AI." *AI Verify Foundation*, May 2024, <https://aiverifyfoundation.sg/wp-content/uploads/2024/05/Model-AI-Governance-Framework-for-Generative-AI-May-2024-1-1.pdf>.
- Singapore Personal Data Protection Commission. *Second Edition of Model Artificial Intelligence Governance Framework*. PDPC, 2020, <https://www.pdpc.gov.sg/help-and-resources/2020/01/second-edition-of-model-artificial-intelligence-governance-framework>.
- UNESCO. *Recommendation on the Ethics of Artificial Intelligence*. UNESCO, 2021, <https://www.unesco.org/en/artificial-intelligence/recommendation-ethics>.
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