

Legal Framework For Managing Artificial Intelligence - International Experience And Lessons For Vietnam

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ABSTRACT

Compared to the human brain, AI has superior strengths, such as Computing capacity and storage capacity. The rapid development of artificial intelligence has opened new opportunities for children and brought significant benefits, but it also raises legal issues that need to be considered and addressed. The application of AI needs to be defined as a supporting tool. However, they are not completely replacing humans; they are applying AI in a human-like way. People's creativity still needs to be emphasized. Moreover, emphasize the ethical and legal aspects of AI; some of the information it provides needs to be carefully considered. Design verification to ensure accuracy and avoid sharing personal data on AI platforms to ensure safety and security. Drawing on risk analysis and a review of legal frameworks across several countries, this article proposes directions for developing and improving policies and laws suited to Vietnam's current context.

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Introduction

The Fourth Industrial Revolution marks a leap forward not only in technology. This revolution is not only in art but also in every aspect of social life. At the heart of this revolution is AI, a technology that promises to transform the way we live profoundly. Working, communicating, and living daily. Artificial intelligence is profoundly impacting many areas of social life, including lawmaking, a field that demands high accuracy, rigour, and accountability. The application of AI in lawmaking is becoming a trend in many countries worldwide.

However, the use of AI in lawmaking also poses new challenges, particularly regarding accountability for errors, violations, or unintended consequences. This study focuses on clarifying the accountability aspects of AI applications. Drawing on risk analyses and references to the laws of several countries worldwide, the article proposes directions for developing and improving policies and laws suited to Vietnam's current context.

Theoretical Basis for the Legal Framework Governing AI The Concept and Characteristics of Artificial Intelligence

The human brain consists of a network of nerve cells that processes information. In the 1940s, scientists began researching the reconstruction of the structure and function of the human brain to create a system with similar cognitive abilities. Machines have developed similar cognitive abilities. It is called artificial intelligence. (AI). Report by the European Commission on Communications. Europe in 2018 provided a further definition. Near-AI based on degree of autonomy as follows: AI refers to systems that exhibit intelligent behaviour. Prove this by analyzing their environment and taking action with a certain level of autonomy to achieve the goals specifically (EU Monitor, 2018). This definition does not

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set limits. What are the conditions for the methods used? It is used to achieve intelligence. This shows that the scope of AI is very broad. The term AI refers to any technique that can be used in any context, as long as it is confirmed to exhibit smart features.

AI is an endeavour. To mimic natural intelligence, humans can, through the use of machines, learn, understand, process, draft, decide, define, and provide output (EU Commission, 2018). The AI algorithm is designed based on the arrangement of nerve cells in animal brains, aiming to imitate intelligence (Grossi, E. & Buscema, M. (2008). The system uses two networks. The neural network is designed using algorithms. These are called generators and discriminators, used to produce creative results (Dworetzky, 2018).

There is a need for a legal framework to regulate AI

AI could create the following risks:

Firstly, AI technology poses a potential threat to humankind's existence. Artificial intelligence could make humans the most intelligent species on Earth (Calum Chace, 2018). So that autonomous intelligent machines can react. Given the situation, new intelligent machine software needs the "self-modified code" characteristic. When errors in self-reforming code are not controlled, it will lead to machine learning errors. At high altitudes, they will lose control and act like "a species of pine." "new intelligence" and with group intelligence connections, their intellectual capacity may be higher than that of individuals. people. Furthermore, similar to cybercrime, AI can become a tool for attack.

AI is a rapidly developing technology, while the legal system has not kept pace in regulating it, making the promulgation of legal documents difficult. Machine learning algorithms, the adaptability and self-updating capabilities of AI pose a significant challenge to establishing a predictable and sustainable legal framework.

Secondly, the field of law is a specialized area that demands high standards, accuracy, and systematic processes. However, AI's ability to "interpret" information is currently limited, which easily leads to skepticism about the reasonableness and legality of the results it provides. Integrating AI into the lawmaking process requires not only technological advancements but also a shift in legal thinking, operational structure, and accountability mechanisms.

Thirdly, AI can suffer from "hallucinations," fabricating information, texts, or precedents that do not exist. In 2023, two lawyers in New York filed an argument citing six completely fictitious precedents created by ChatGPT, which the court rejected as a violation of legal ethics (Sara Merken, 2023). Therefore, the US Supreme Court issued a warning about the "hallucination" phenomenon in AI, after a study found that popular chatbots fabricated information between 58% and 82% of the time when asked about the law (Faiz Surani & Daniel E. Ho, 2025).

Legislative approaches to AI

The first model is risk-based management. The level of legal intervention must be commensurate with the risks posed by AI systems to humans, society, and the environment. This is the core principle of the OECD Framework for Classification, and the EU AI Act ensures that the law is strong enough to protect human rights without stifling innovation.

The second model is technological neutrality. Laws should only regulate the purpose and use, not the specific technology. Given the rapid evolution of foundation models and generative AI, the principle of technological neutrality helps ensure that legal texts do not become outdated as technology changes.

The third model is the framework law, which provides flexible guidance. The law should play a guiding role, assigning technical standards, procedures, and detailed guidelines at the level of decrees, circulars, and national standards. This hierarchical model is similar to the legal frameworks of the EU,

South Korea, and Singapore, helping to balance "legal stability" and "technological adaptability." In addition, the law needs to incorporate the core ethical values of the United Nations Educational, Scientific and Cultural Organization, including fairness, transparency, accountability, safety, and respect for human rights (UNESCO, 2021). Moreover, NIST risk management principles include management mapping and measurement management (NIST, 2023).

International experience regarding the legal framework for regulating AI.

EU experience

The EU has established a comprehensive legal framework for digital technologies, especially AI, to build a safe, reliable and human-centred AI ecosystem [9]. First is the General Data Protection Regulation (GDPR), enacted by the European Parliament and the EU Council. GDPR not only sets strict standards for the protection of personal data but also promotes important rights such as the "right to interpretation," the right to request human intervention (Personal Data Protection Commission Singapore, 2020). Moreover, the "right to be forgotten" allows users to request the deletion of their personal data in certain circumstances (Sousa Wesley Gomes de, 2019).

The AI Act, enacted and effective from August 1, 2024, is the world's first legally binding document specifically regulating AI. The core of the AI Act is its risk-based approach, classifying AI systems into four levels: unacceptable risk; high risk; limited risk; and minimal risk. This approach is particularly important for the public sector, as many AI applications, such as automated administrative decision-making systems, are classified as "high risk." These systems must comply with very strict legal obligations, including registration in the EU's common database, rigorous conformity assessment, human oversight throughout their lifecycle, and high transparency (Surden Harry, 2019). EU member states can deploy AI applications in digital services cautiously yet effectively, laying a secure foundation for harnessing technology's potential while addressing complex legal and ethical issues (Kaun Anne, Larsson Anders Olof, Masso Anu, 2024).

The US experience

In the United States, it has the advantage of widespread adoption of Big Data Analytics and Internet of Things technologies. (Internet of Things), in terms of technological readiness and advanced consumption, as well as asset availability. (Advanced infrastructure, significant investment, large skill pool, rapid data and information flow) (news), the United States got off to a strong start early on. It was the first country (in May 2016) to develop the National AI Strategy (issued in October 2016), which aims to make the United States a global superpower in artificial intelligence, thereby boosting its economy and national security (National Science and Technology Council, 2016), (PwC, 2018). Due to the private sector's rapid, strong investment in AI. As it grows, this strategic plan chooses a focused approach to US government investment. In areas such as public health, urban systems, social welfare, criminal justice, environmental sustainability, national security, and basic science, AI is being used. Colorado was the first state to enact a comprehensive law, Colorado SB 24-205 (CAIA), detailing the responsibilities of developers and deployers of high-risk AI systems to ensure transparency and accountability in public administration (Colorado General Assembly, 2024). Montana enacted HB 178 to ensure that AI-based public administration is conducted transparently and respects citizens' rights (Legiscan, 2025). In New York, S7543B (Loading Act) mandates direct oversight of automated decision-making tools, including AI, when used to support or replace government decision-making (The New York State Senate, 2023).

Current state of Vietnamese law on AI management

Prior to 2021, AI legislation was primarily contained within policies and guidelines such as Resolution No. 52-NQ/TW (2019), Resolution No. 57-NQ/TW (2024), or directives on digital transformation, creating a legal "grey area" due to a lack of specific regulations on responsibilities, risk classification, etc., thereby creating potential risks when applying AI.

Since 2021, the legal framework has gradually become clearer through Decision No. 127/QĐ-TTg (2021) (Prime Minister, 2021) on the National AI Strategy and Decision No. 749/QĐ-TTg (2020) (Prime Minister, 2020) on the National Digital Transformation. These documents, along with Decision No. 2259/QĐ-BTTTT (2022), have marked a significant shift from policy orientation to technical guidance, identifying AI as a foundational technology and setting out principles of ethics and trust.

The Law on the Digital Technology Industry (No. 71/2025/QH15) dated June 14, 2025, effective from January 1, 2026 (National Assembly, 2025), marks a significant step forward in legalizing the management of artificial intelligence in Vietnam (Ha Thu Hien, Nguyen Bich Phuong and Bui Le Phuong Anh, 2026).

The Artificial Intelligence Law of 2025 (Law No. 134/2025/QH15), passed by the National Assembly on December 10, 2025 and effective from March 1, 2026, is Vietnam's first comprehensive legal document regulating the field of artificial intelligence. It comprises 8 chapters and 35 articles. The law regulates the research, development, provision, deployment, and use of artificial intelligence systems. It establishes the rights and obligations of relevant organizations and individuals, as well as the state's management responsibilities regarding AI activities. The enactment of the Artificial Intelligence Law in 2025 established a unified legal framework for the development and application of AI in the digital age, ensuring safety, accountability, and a human-centred approach. This is a crucial foundation for promoting innovation, developing the digital economy, and deepening international integration (Trung Cuong, 2026).

The continuous improvement of the legal system in these pillars demonstrates the determination of the National Assembly and the Government to create a synchronized and advanced institutional environment, serving as a foundation for science, technology, innovation, and digital transformation to truly become the main driving force of socio-economic growth in the coming period (Thu Giang, 2025).

Nevertheless, Vietnamese law still needs improvement in areas such as: (i) protecting privacy, lacking specific enforcement mechanisms for AI applications ; (ii) addressing the risks of discrimination and lack of transparency from AI ; (iii) resolving limitations in legal regulations on policies to encourage and support AI; and (iv) legal liability for erroneous AI results.

Lessons learned and recommendations for Vietnam

Firstly, establish regulations on risk classification and the responsibilities of entities involved in AI applications; *refine the mechanism for determining legal liability for damages caused by AI* using a clear, cautious roadmap that focuses on practical solutions.

There should be an annex illustrating risk levels, similar to Annex III of the EU AI Act, with quantitative criteria such as: degree of autonomy, user size, impact on fundamental rights, or sensitive sectors (education, health, justice, infrastructure, employment). The shift from post-audit to pre-audit requires clear quantitative thresholds. Furthermore, the principle of "proportion" must be ensured: small and medium-sized enterprises (SMEs) should be able to submit simplified technical documentation based on readily available materials from general-purpose engineering equipment (GPAI) providers. This helps reduce compliance costs while maintaining accountability.

Secondly, establish regulations on transparency and labelling of AI-generated content (AIGC). AIGC (Analytical Content Generation Systems) must adhere to labelling and watermarking mechanisms to

identify the source of content. The law should reference the C2PA (Coalition for Content Provenance and Authenticity) and ISO/IEC 42001 standards to ensure international compatibility. Furthermore, metadata disclosure for training data and models should be required to enhance transparency.

Third, regulations regarding the assessment of the impact of artificial intelligence. All AI projects in the public sector must conduct an AI Impact Assessment (AIA) before deployment, with a publicly available summary. The AIA report must include: intended use, affected parties, data sources, measures to mitigate bias, and a complaint mechanism. Regulators should have the authority to request a halt to deployment when the system exceeds acceptable risk thresholds.

Fourth, issue regulations governing the handling of safety incidents related to applied artificial intelligence models. In addition, Vietnam needs to establish a National AI Coordinating Agency (Vietnam AI Office) under the Government, responsible for policy coordination, risk management, and international cooperation. The Prime Minister would be responsible for overall direction, while relevant ministries would issue detailed technical regulations.

Conclusion

Building and refining the legal framework for artificial intelligence (AI) is essential. International lessons show that AI legislation is not only a legal tool but also a means to guide a culture of innovation in which the state, businesses, and society cooperate to ensure that AI development always serves humanity. A good policy framework is not only a legal basis but also a driving force for AI to become a tool for promoting sustainable development. Given Vietnam's current conditions, the AI policy framework must strike a delicate balance between advancing technology and protecting core human values. By integrating clear governance mechanisms, an open data strategy, community participation, and ethical principles as a foundation, we will develop a dynamic and reliable AI ecosystem that ensures we are not left behind in the digital age.

Disclosure Statement

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