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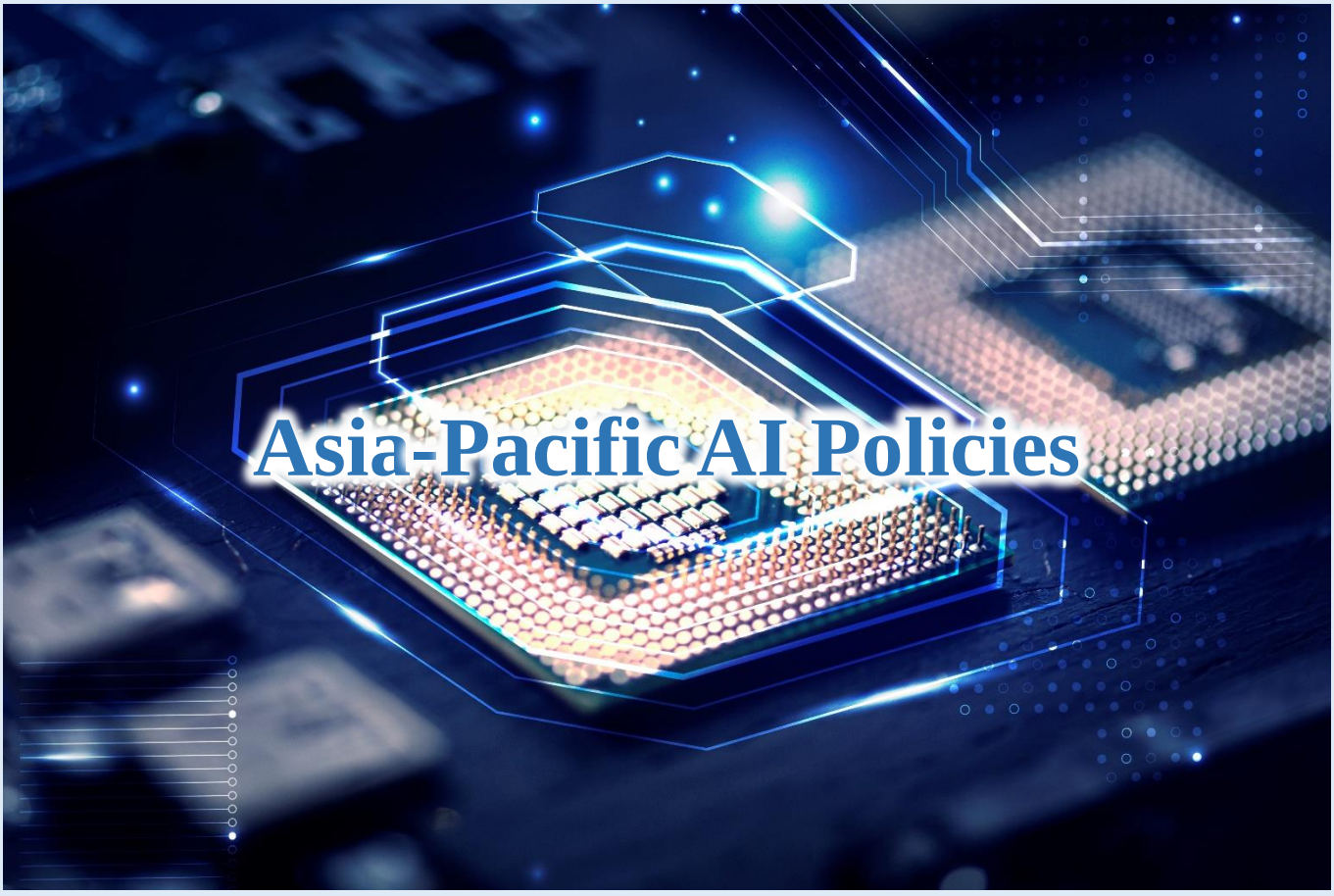

Facilitation for Benefits and Regulations for Risks: Artificial Intelligence Governance in Taiwan

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Security and Innovation: Asia-Pacific AI Policies are Shaping a New International Order

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Issue Paper

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1. Introduction

Artificial intelligence (AI) is rapidly reshaping economies, industries, and societies worldwide. With its transformative potential, AI offers both significant benefits and profound challenges. In this issue of Issue Paper, we examine how AI governance is evolving in Taiwan and across the Asia-Pacific region. Two articles provide in-depth analyses of these crucial developments.

The first article, Facilitation for Benefits and Regulations for Risks: Artificial Intelligence Governance in Taiwan, by professor Yi-Fan Wang, explores Taiwan's approach to AI governance, balancing innovation with necessary regulatory measures. Taiwan has positioned itself as both an enabler and regulator of AI, striving to foster technological advancements while ensuring ethical and legal safeguards. The government's role as a user, leader, and facilitator is crucial in shaping an AI ecosystem that supports economic growth while addressing risks related to data privacy, security, and regulatory compliance.

The second article, Security and Innovation: Asia-Pacific AI Policies are Shaping a New International Order, by Derek Chiang, expands the discussion to the broader Asia-Pacific region, where AI is becoming a critical element in global geopolitics. Nations across the region are implementing policies that drive AI innovation while also responding to rising security concerns. The interplay between economic competition and international cooperation is redefining digital sovereignty and global AI governance.

Together, these articles highlight the importance of AI policy in fostering sustainable technological progress, national security, and international collaboration. As AI continues to evolve, striking the right balance between innovation and regulation remains a paramount challenge for policymakers and industry leaders alike.

1-1. Facilitation for Benefits and Regulations for Risks: Artificial Intelligence Governance in Taiwan

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With the development of artificial intelligence (AI) systems, the Taiwanese government employs various approaches to manage and govern this technology. AI governance issues cannot only be analyzed from a technological approach but also investigated from a social science perspective because this technology has deeply affected the human community. Based on this consideration, this article adopts the typology developed by Guenduez and Mottler[1] as the framework to discuss Taiwanese AI governance. The government serves as a user, regulator, leader, and enabler in various narratives. Users describe that public agencies utilize AI systems to deliver public services, and regulators mean that the government enacts rules to prohibit or limit specific AI applications for risk mitigation. Also, leaders emphasize that the government contributes to AI research and development, and enablers focus on the efforts of public organizations to support commercial entities in receiving benefits from AI systems. This essay analyzes AI governance from internal management to international patterns. Specifically, this article discusses the roles of government in AI application in the public sector, technology development, and market establishment for businesses and professionals, public value creation in AI governance, and foreseen issues in the future.

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1. Guenduez, A. A., & Mettler, T. (2023). Strategically constructed narratives on artificial intelligence: What stories are told in governmental artificial intelligence policies?. Government Information Quarterly, 40(1), 101719.

AI Applications in the Government

The government serves as a *user* to utilize AI systems public service delivery improvement. Local governments adopt narrow AI to achieve specific policy purposes. Narrow AI aims to deliver specific objectives under humans' control. One of the most salient applications is traffic management in local governments. City and county governments employ AI systems to collect and analyze data on traffic flows for transportation strategy development. For instance, several transportation agencies use smart traffic lights to reduce commute time for residents. AI systems can adjust traffic lights based on the previous traffic flows. Likely, some local governments use AI systems to provide recommendations for public transportation. When AI systems report a high volume of passengers waiting in stations with video and image recognition techniques, public organizations can ask carriers to assign more buses or trains to these stops. Finally, most local governments in Taiwan include AI systems in automated traffic enforcement. The AI system can detect various types of traffic violations in intersections. This system can report vehicle violation behaviors and license plates so police agencies can fine these drivers. This application improves traffic safety and reporting accuracy.

The central government is a *regulator* in building trustworthy AI. The government instructs public agencies to use generative AI systems. Compared to narrow AI, generative AI can create original texts, images, and videos with large language models. This function allows public organizations to save human resources for repeating tasks, such as responses to civil inquiries, official letters for routine issues, and press releases. Overly relying on this technology results in a lack of human control, privacy infringement, and insufficient national security. When bureaucrats use AI to automate public tasks, they might not find administrative mistakes in service delivery. Also, generative AI systems can misuse personal and sensitive information to raise concerns about privacy protection. Moreover, uploading credential information can bring challenges to national defense and security. To address these issues, the central government enacts the *Guidelines for Generative Artificial Intelligence Use in Executive Departments and Agencies*. This regulation requires human agents to review outcomes from generative AI, prohibits bureaucrats from sharing personal and sensitive information with the system, and expects public agencies to develop rules for AI use. This regulation echoes the public sector's need to avoid administrative evils resulting from AI applications. Administrative evils occur when public organizations misuse or abuse AI without appropriate regulations[2] . Enacting rules for AI applications can address this potential threat.

AI Development and Market Building

In addition to users and regulators, the government serves as an *enabler* and *leader* in AI technology development and market creation for the private sector and professional community. First, regarding enablers, the government developed a strategy called "The Greater South New Silicon Valley Promotion Plan" to facilitate the AI-enabled industry transformation. This plan aims to increase computing capacities, expand AI applications in industries, integrate AI supply chains, and bring technology experts to commercial entities. In other words, this plan can strengthen the existing AI industry and encourage private sector actors to transform their production and operation with AI-relevant technologies. Moreover, several central government departments are involved in developing the AI industry. For instance, the Ministry of Digital Affairs and the Ministry of Economic Affairs (MOEA) are responsible for chip and software technology and market development. Also, the Ministry of Health and Welfare needs to assist the medical industry in introducing more AI technologies into the process.

Also, this plan highlights the importance of ethical consideration. In the past, most AI strategies focused on the technological dimension and neglected the perspective of moral and ethical values. However, AI applications have substantial impacts on the human community. Resolutions for these issues may rely not only on technical modification but also on the thinking of the social sciences. For instance, citizens' perceptions of AI systems may affect their policy compliance behavior. Likely, public employees' interpretation of this technology affects human and machine interactions in the government. The two examples suggest that subjective understanding of AI applications can be equally crucial as technical design. Hence, the government can include the social science perspective in AI governance.

Furthermore, the government acts as an enabler in AI education tasks. With the expansion of the AI industry, the need for professionals and experts has become more salient and significant. The National Science and Technology Council (NSTC) calls for research projects addressing AI challenges and development in higher education. The Ministry of Education encourages universities to establish programs for chip development and AI techniques training, and prepare new courses for the AI-enabled

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2. Young, M. M., Himmelreich, J., Bullock, J. B., & Kim, K. C. (2021). Artificial intelligence and administrative evil. Perspectives on Public Management and Governance, 4(3), 244-258

transformation. Furthermore, the MOEA provides vocational training for companies or individuals interested in advancing their AI knowledge and techniques. The policy objective is to educate AI professionals and experts to support AI industries.

Along with the enabler, the government is a leader in strategic collaboration plans to integrate competencies of different sectors in AI research and development. Different sectors have their unique profession in the research and development for AI so that the government can lead the interdisciplinary collaboration. For instance, the NSTC upgrades infrastructure and software for education and training, facilitates the collaboration between education institutes and businesses for research and development, and establishes channels to integrate resources. Also, the NSTC develops international partnerships with prestigious universities and companies to bring human resources and knowledge. Innovation companies are encouraged to operate plants and invest in industries in Taiwan. Moreover, the NSTC has developed a large language model for Taiwan, the Trustworthy AI Dialogue Engine (TAIDE), to support public agencies and private sector actors in developing their generative AI systems. TAIDE is trained by traditional Mandarin Chinese and Taiwanese contextual information to localized AI systems for Taiwanese users.

AI Governance for Public Values

The Executive Yuan enacts a new law to respond to a call for AI governance. Scholars have discussed the positive and negative impacts of AI systems on public values. AI can increase effectiveness and efficiency, improve government service performance, facilitate social inclusion and civic engagement, and foster sustainability, but it threatens social equity, administrative ethics, transparency, accountability, and democratic values[3]. The government can develop AI governance frameworks to maximize benefits and minimize challenges. Following South Korea, the Taiwanese government enacts the Artificial Intelligence Fundamental Act (AIFA) to govern this technology. Although Congress has not reviewed this act, this law demonstrates the pursuit of public values in the executive branch. The AIFA explicates that principles for AI applications include sustainability and social welfare, human autonomy, privacy protection and data governance, cybersecurity and safety, transparency and explainability, fairness and indiscrimination, and accountability. In order to enforce these principles, the government can enact management rules, initiate collaborations with

3. Zuiderwijk, A., Chen, Y.-C., & Salem, F. (2021). Implications of the use of artificial intelligence in public governance: A systematic literature review and a research agenda. Government information quarterly, 38(3), 101577.

nongovernmental actors, educate and incubate AI human resources, and invest in AI infrastructures to strengthen economics. These actions require many departments and agencies to contribute their expertise in policy formation and implementation.

The Taiwanese government follows global trends in enacting public policies for AI. The AIFA clarifies that the government can be a user, regulator, enabler, and leader based on policy fields. For instance, the government can utilize AI for public services but needs to follow relevant rules. By enacting AI regulations, public organizations can protect citizens' rights to avoid administrative evils. Several departments can be enablers to facilitate research, education, development, and utilization of AI technology. The government can serve as a leader in creating and expanding the AI market at both domestic and international levels. Hence, the shared objective is to advance public values in AI governance with various policy actions.

Prospective Issues for AI Governance

This essay identifies two issues the government should deliberate on in order to develop AI governance approaches. First, the government can establish international partnerships to respond to emerging AI challenges. AI Deepfakes result in online violence, privacy infringement, scams, and misinformation. Many countries encounter these challenges, and perpetrators live in different regions, so a single nation cannot address the problems alone. One feasible approach is to form an international partnership to respond to these threats. Also, the data sources for algorithmic training come from different countries, so international collaboration affects data governance. For instance, personal data protection rules can differ in Taiwan and Europe. The regulation divergences between nations impede international commercial activities, slowing down economic and technical development. Governments around the world can work with others to discuss and negotiate AI regulations for better governance.

The other issue for the government is how to co-create AI policies with stakeholders. Policy co-creation is an innovative and advanced civic engagement approach. Co-creation aims to integrate public and private actors' competencies to contribute to developing or designing original policy actions for service improvement and public values. For instance, the government can collaborate with public managers, technology experts, and the Indigenous Community to develop an AI system for emergency management. This approach allows the government to understand the expectations of various actors to improve policy design. To design AI policies, the Taiwanese government can co-create AI policies with bureaucrats, commercial entities, nonprofit organizations, and civil society. In order to facilitate co-creation, the government can legalize this collaboration process to engage more actors and improve public policies for AI governance.

Finally, this essay concludes that the government can develop AI governance strategies from the macro-level perspective. The macro-level perspective encourages the government to deliberate AI issues based on national regimes, legal systems, institutions, and cross-sector interactions. When the government considers these factors, it can further include international trends in policy development. Therefore, local and international realities are relevant to AI governance in Taiwan.

1-2. Security and Innovation: Asia-Pacific AI Policies are Shaping a New International Order

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AI-Driven Modern Technological Transformation

In the era when the digital economy is flourishing, artificial intelligence (AI) is propelling innovation and progress at an unprecedented pace. As technological breakthroughs persist and application scenarios expand, AI's influence is profoundly felt across all sectors. Beyond promoting technological innovation and industrial transformation, AI has gradually emerged as a pivotal asset in the global geopolitical and economic arena, serving as a crucial bargaining chip in the pursuit of economic growth, military supremacy, and national security.

AI has accelerated industrial upgrading and digital transformation, empowering industries such as manufacturing, finance, retail, and healthcare to enhance productivity and competitiveness through automation and intelligent solutions. In finance, AI's applications in risk management, robo-advisory services, and big data analytics boost service efficiency and optimize capital utilization, paving the way for innovative financial products and business models. Meanwhile, the widespread adoption of e-commerce, intelligent logistics, and personalized services breathes fresh vitality into the digital economy.

In the military sphere, AI-driven unmanned vehicles—integrating high-precision sensing, decision-making, and control—have rapidly ascended within autonomous weaponry and unmanned combat, emerging as formidable forces on future battlefields. Furthermore, smart intelligence analysis, leveraging big data and deep learning, swiftly identifies threats amid vast information streams, providing critical support to military command and significantly enhancing operational efficiency and responsiveness.

At a societal level, governments worldwide are formulating AI policies to foster the development of smart healthcare, smart cities, and smart education, markedly improving public service efficiency and the quality of life, and making societal operations more effective and convenient.

Asia-Pacific AI Policy Landscape and Competition

The Asia-Pacific market, renowned for its vastness and diversity. This region not only has a huge consumer market, but also has abundant human resources and technological potential. Therefore, it has rapidly emerged as a critical battleground for technological innovation. Recognizing the transformative potential of AI, governments across the region are strategically positioning AI at the heart of their national development blueprints, unveiling a series of policy documents aimed at advancing both AI research and its applications, thereby accelerating the evolution of smart cities, intelligent manufacturing, and fintech—all in a bid to secure a global competitive edge. Recognizing data as the fundamental resource for AI, nations are actively constructing robust data infrastructures and platforms to ensure comprehensive collection, integration, and efficient utilization.

At the core of these strategic endeavors lies the recognition that data is the fundamental resource driving AI innovation. This data-driven approach not only informs decision-making and sharpens analytics but also empowers businesses to anticipate market trends, innovate new products and services, and generate significant economic value. Consequently, the competitive dynamics within the region are intensifying, creating a complex international arena. In this competitive arena, there is not only fierce competition from traditional technological powers, but also the rapid rise of emerging market companies.

Notably, the United States has long maintained its leading position in artificial intelligence innovation. Through a vibrant ecosystem, academia, industry, and research institutions work closely together to ensure that the United States remains at the forefront of AI innovation. In addition, its government's proactive initiatives—such as the National Artificial Intelligence Research Resource (NAIRR) pilot program[1] —provide researchers with essential assets including models, computing power, and datasets, thereby fostering deeper collaboration among academia, industry, and research institutions. At the same time, emerging Chinese AI firms, like DeepSeek, with their high efficiency

1. U.S. National Science Foundation. "National Artificial Intelligence Research Resource Pilot" Retrieved on February 24, 2025. https://www.nsf.gov/focus-areas/artificial-intelligence/nairr.

and relatively lower costs, have imposed tangible competitive pressures on American tech giants, compelling the U.S. to hasten its pace of technological innovation and market responsiveness.

Korea has established a National AI Committee and released its "National AI Strategic Policy Directions,"[2] embarking on projects that expand national AI computational infrastructure and boost private investment, all in a concerted effort to emerge as one of the top global AI powerhouses. Singapore has committed to investing 1 billion Singapore dollars over the next five years to enhance AI talent development and technological research, underpinning its digital transformation.[3] Meanwhile, Taiwan is actively rolling out the "AI Action Plan,"[4] focusing on industrial AI integration while simultaneously advancing initiatives in talent cultivation, industry development, operational environment enhancement, internationalization, and socio-cultural innovation. Leveraging its semiconductor advantages, Taiwan is also exploring the deep integration of AI with semiconductor technology to foster broader industrial application and adoption, thereby creating more value and opportunities in the global market.

Malaysia announced the establishment of a national AI office in December 2024, [5] providing strategic planning, research and development as well as regulatory oversight. Meanwhile, global technology giants such as Google, Amazon, and Microsoft have significantly increased their investments in Malaysia, further enhancing the nation's digital infrastructure and accelerating its ascent as a leading AI innovation hub in the region.

These specific cases show that AI is not just a technological tool but a strategic asset reshaping national strength. The coordinated efforts across governments and businesses—from infrastructure investments to policy innovations—are shaping a future in which artificial intelligence will continue to

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2.과학기술정보통신부. "National AI Strategy Policy Directions" September 26, 2024. Retrieved on February 24, 2025. https://www.korea.kr/briefing/pressReleaseView.do?newsId=156652417

3. Singapore Economic Development Board. "Singapore goes full throttle on AI to secure future for workforce; allocates S$500m for advanced hardware" March 8, 2024. Retrieved on February 24, 2025. https://www.edb.gov.sg/en/business-insights/insights/singapore-goes-full-throttle-on-ai-to-secure-future-for-workforce-allocates-s500m-for-advanced-hardware.html

4. Office of Science and Technology Policy, National Science and Technology Council "AI" Retrieved on February 24, 2025. https://ostp.nstc.gov.tw/PolicyContent.aspx?id=12

5. Ashley Tang and Martin Petty. "Malaysia launches national AI office for policy, regulation". Reuters. February 12, 2025. March 4, 2025. https://www.reuters.com/technology/artificial-intelligence/malaysia-launches-national-ai-office-policy-regulation-2024-12-12/

redefine economic and geopolitical boundaries. The dynamic interplay between competition and cooperation in the region offers a glimpse into a future where data-driven decision-making and technology integration are essential to achieving global competitiveness. With clear policy direction, strategy and investment, the Asia-Pacific region is gradually building a new economic ecosystem with AI as the core driving force, and is playing a vital role in the global wave of digital transformation.

AI Security Issues and International Discussion

Yet, as AI technology advances at breakneck speed, global concerns over the attendant security risks and ethical dilemmas are mounting. The World Economic Forum (WEF) has warned that within the next two years, AI-generated misinformation and data omissions could eclipse extreme weather events as the most significant global threat.[6] Training AI systems demands enormous datasets—often implicating personal privacy—and striking the delicate balance between safeguarding user data and preserving model accuracy remains a formidable challenge. Many users are unsettled by opaque data practices, which could lead to resistance to AI applications. Moreover, while AI can enhance data security, it concurrently offers hackers novel avenues of attack, enabling them to harness generative AI techniques for sophisticated phishing schemes or automated malware, thereby intensifying the complexity of defense.

Despite each nation's unique development blueprint, the importance for regional cooperation is growing. Governments and international organizations alike are turning their focus to AI governance, advocating for the establishment of reliable AI technologies and robust operational frameworks, alongside the development of corresponding laws and policies. The Global Partnership on Artificial Intelligence (GPAI)—a consortium including Canada, Japan, New Zealand, Korea, Singapore, and the United States—reaffirmed at its ministerial meeting in December 2024[7] that AI advancement must adhere to the core tenets of democracy, human rights, and the rule of law, while promoting secure, trustworthy, and inclusive applications. GPAI emphasizes AI's vast potential in transforming the global economy, addressing critical challenges, and driving sustainable development, even as it strives to bridge the digital divide between developed and emerging economies. The organization champions a human-centric, ethical, and inclusive approach to AI research and actively engages in international initiatives for trustworthy AI, urging advanced democracies and global institutions to craft technology standards in line with universal values.

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6. World Economic Forum "The Global Risks Report 2025" January 15, 2025. Retrieved on February 24, 2025. https://reports.weforum.org/docs/WEF_Global_Risks_Report_2025.pdf

7. Global Partnership on Artificial Intelligence. "GPAI Belgrade Ministerial Declaration" December 4, 2024. Retrieved on February 24, 2025. https://wp.oecd.ai/app/uploads/2024/12/GPAI-Belgrade-Declaration-final-3.pdf

At the Paris AI Action Summit on February 12, 2025, nations converged to deliberate on establishing a diverse, inclusive, and sustainable AI ecosystem.[8] The summit's joint declaration called for an AI development grounded in human rights, people-centric principles, and safe, transparent practices; one that narrows the digital divide, bolsters developing nations' technological capacities, and prevents market monopolization—all while fostering industrial rejuvenation and workforce transformation. These initiatives are designed to ensure that AI remains open, transparent, ethical, and reliable, thus delineating a clear blueprint for global technological innovation and sustainable progress.

Furthermore, participants cautioned against the potential hazards of intertwining AI with military applications, urging the creation of effective oversight mechanisms to avert the perils of runaway technology. During the summit, sixty countries—including China, Canada, Japan, Korea, and Australia—signed a declaration endorsing open, transparent, and ethical AI development and the reduction of the digital divide. In contrast, the United States refrained from signing, with U.S. Vice President JD Vance warning that excessive regulation could kill a transformative industry.[9] It highlights the clash of worldviews on this critical issue.

Conclusion

As AI technology continues to break new ground, the Asia-Pacific region stands at the threshold of unprecedented opportunities and challenges. Nations are actively orchestrating the path toward AI innovation and development—not only by investing vast resources in technological research and development but also by establishing cross-sector collaborative platforms aimed at bolstering industrial competitiveness and national security, all in a bid to secure a strategic edge in the future tech race. Yet, amid this sweeping global technological revolution, international cooperation and ideological differences are drawing equal attention. In particular, divergent national policies and values on AI security and ethics have made the quest for the optimal balance between ensuring security and fostering innovation an urgent challenge for global technological advancement.

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8. Palais de l'Élysée "Statement on Inclusive and Sustainable Artificial Intelligence for People and the Planet" February 11, 2025. Retrieved on February 24, 2025. https://www.elysee.fr/en/emmanuel-macron/2025/02/11/statement-on-inclusive-and-sustainable-artificial-intelligence-for-people-and-the-planet

9. Jeffrey Dastin and Ingrid Melander. "Vance tells Europeans that heavy regulation could kill AI" Reuters. February 12, 2025. February 24, 2025. https://www.reuters.com/technology/artificial-intelligence/europe-looks-embrace-ai-paris-summits-2nd-day-while-global-consensus-unclear-2025-02-11/

AI policy has long surpassed the confines of mere industrial growth, evolving into a powerful instrument that shapes international political landscapes and redefines global digital sovereignty. The year 2025 is poised to become a pivotal turning point, as subtle variances in national approaches to AI governance and competitive strategies could spark a fresh realignment of international dynamics, redrawing the map of regional digital sovereignty.

3. Conclusion

As AI advances at an unprecedented pace, governments and organizations worldwide must navigate a complex landscape of innovation, security, and regulation. This issue of Issue Paper has examined AI governance strategies in Taiwan and the Asia-Pacific region, revealing both opportunities and challenges in shaping AI's future.

Taiwan's approach to AI governance underscores the delicate balance between enabling technological progress and mitigating risks. By assuming roles as a regulator, enabler, and leader, the Taiwanese government is fostering a responsible AI ecosystem that supports economic growth while addressing ethical and legal concerns. Its policy initiatives, including guidelines on generative AI and investments in AI education, demonstrate a commitment to sustainable and secure AI development.

Beyond Taiwan, the Asia-Pacific region is emerging as a key battleground for AI policy and competition. Nations are not only leveraging AI for economic advancement but also recognizing its strategic implications for security and global influence. The region's diverse AI policies reflect a dynamic interplay of innovation, regulatory oversight, and international collaboration. However, as AI-generated misinformation, cyber threats, and ethical dilemmas become more pressing, governments must strengthen cooperative frameworks to ensure AI remains a force for good.

Ultimately, AI governance is not merely a domestic issue but a global challenge that requires strategic coordination across sectors and borders. The path forward will require robust regulatory frameworks, transparent policies, and continued investment in ethical AI research. By fostering inclusive and responsible AI ecosystems, societies can harness the benefits of AI while mitigating its risks, shaping a future where AI serves humanity's best interests.

Reader Survey