AI Governance International Evaluation Index

AGILE Index

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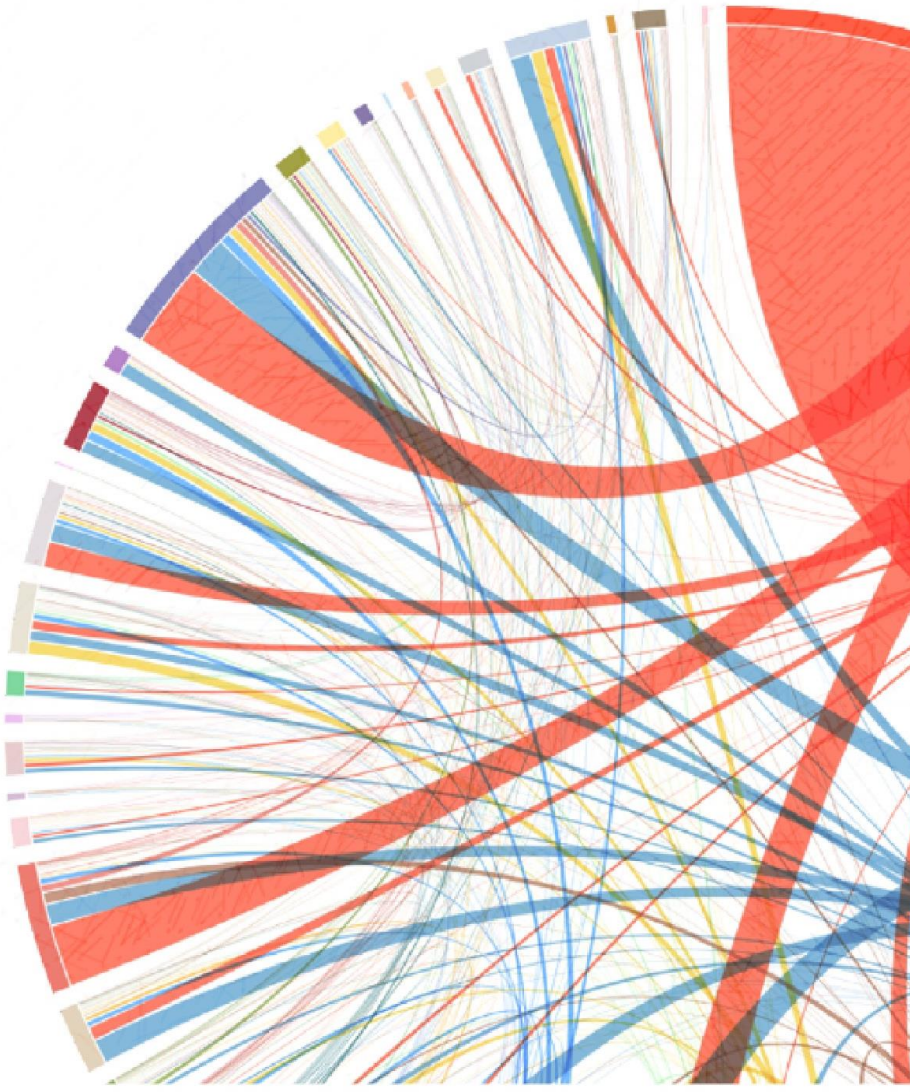


Executive Summary

The AGILE Index 2025 evaluation reveals many noteworthy findings:

Overall,

1. Based on the score distribution of the AGILE Index, the 40 evaluated countries can be categorized into three tiers, with Pillar 1 (Development Level) and Pillar 3 (Governance Tools) being the key variables that differentiate countries.
2. Among the 14 countries evaluated last year, the ranking changes reveal a pattern of intense competition among top - tier countries and relative stability for lower - ranked ones, with key shifts like the US - China swap.
3. There is a positive correlation between AGILE Index score and the GDP per capita.
4. The performance of the 40 countries across the four pillars of the AGILE Index reveals four distinct types of AI governance.
5. High-income countries show a clear advantage over non–high-income group in both P1 AI development level and P3 governance instrument, while the latter outperform in P2 governance environment and P4 governance performance due to lower AI risk exposure and higher public acceptance of AI.

In terms of AI development,

1. China and the United States each exhibit distinct strengths in AI development—China in AI-related publications and patents, and the U.S. in supercomputing power, private investment, and startup funding—together serving as twin engines driving global AI progress, with other countries trailing across multiple indicators.
2. Countries with a higher total GDP tend to perform better in terms of the number of AI-related journals/conferences and AI professionals.
3. From 2010 to 2023, both the number of GenAI patents globally showed exponential growth, with the total patents increasing by about 30 times and applications by around 25 times, and the growth rate accelerated significantly after 2018. Among all the data analyzed, China accounted for 65% of the global total granted GenAI patents, far exceeding other countries and demonstrating a highly concentrated distribution.

In terms of AI governance environment,

1. The total number of recorded AI risk incidents continues to grow, more than doubling compared to before; the proportion of recorded AI risk incidents in the United States is declining, while the proportion of such incidents in other countries is on the rise.
2. Risk incidents pertaining to Safe & Security, Human Rights, and Data Governance are more numerous, accounting for half of the total number of risk incidents.
3. Although high-income countries tend to cluster at the higher end—indicating more advanced governance preparedness—the overall distribution also reflects the potential for improvement across different national contexts.
4. There is a notable disparity between high-income and non-high-income countries regarding the level of national governance, while the gap in the digital governance dimension is relatively smaller. This could be attributed to the fact that digital governance is less influenced by historical factors and is more substantially driven by the technological dissemination and the effective utilization of digital tools
5. From 2023 to 2024, countries demonstrated varying degrees of progress in advancing the Sustainable Development Goals (SDGs), with some exhibiting significant year-on-year shifts.

In terms of AI governance instruments,

1. All countries evaluated in AGILE Index have published national-level strategies, and different countries have adopted different structures in the formulation of AI strategies.
2. Since 2024, the legislation on AI has shown a clear accelerating trend. Some countries have enacted national general regulations on AI, while others have formulated special regulations for vertical fields of AI.
3. All 40 countries have participated in various forms of global AI governance mechanisms, with the United Kingdom, France, Japan, and South Korea showing the highest levels of involvement.
4. Safety has become an important theme in the current governance of AI.

In terms of AI governance effectiveness,

1. Economic development, as reflected by GDP per capita, is positively correlated with the digital inclusion of social vulnerable groups to a certain extent.
2. Gender Ratio of AI Authors Continues to Reflect the Overall Male-Dominated Landscape in AI Research.
3. As Incomes Increase, Public Awareness of AI Applications Declines; Per Capita GDP Shows Negative Correlation with Recognition of AI Integration.
4. Developing Economies Exhibit Higher Trust and More Optimistic Attitudes Toward AI Integration in Products and Services.
5. The actual participation and technical contribution capacity of countries in the global open-source AI technology ecosystem are related to the level of economic development, but are also influenced by the reserve of programming talents, the basic education system, and the long-term accumulation of the technical community.
6. In terms of the openness of AI data and algorithms, China and the United States hold an absolute global leading position. In influential open AI models, the two countries account for over 70% of the global total, and the same is true for influential datasets.
7. Among the 40 countries evaluated, the total volume of publications related to AI governance accounts for approximately 20.4% of all AI - related publications. Among them, the combined proportion of AI governance - related publications contributed by China and the United States is 54%, exceeding half.
8. The United States and China lead in advancing AI for sustainable development goals, contributing more than half of the total efforts, while other countries have also made significant contributions, collectively driving the global “AI for Good” movement.
9. The United States and China lead in advancing AI for sustainable development goals, contributing more than half of the total efforts, while other countries have also made significant contributions, collectively driving the global “AI for Good” movement.
10. In the specific research on AI and sustainable development goals, SDG 3 (Good Health and Well-Being), SDG11 (Sustainable Cities and Communities), SDG9 (Industry, Innovation and Infrastructure) has received widespread attention, with non high-income countries significantly outpacing high-income countries in the number of studies on SDG 3.

I. AGILE Index

1. AGILE Index 2025

1.1. What's New in AGILE Index 2025

Data Refresh & Expansion:

A comprehensive check has been conducted on all data sources from the previous version. As long as the data range covers up to 2024, it has been synchronized and updated to ensure timeliness and completeness. Meanwhile, many new data sources has been added.

Dual Expansion of Indicators & Country Coverage:

The number of indicators has increased from 39 to 43, and the coverage of countries has expanded from 14 to 40, providing a more solid foundation for horizontal comparison and trend judgment.

Additions on AI Frontier Tech & Research Topics:

Supplementary data on frontier technologies in artificial intelligence, such as generative AI and other hot topics, have been added. In the literature analysis section, the scope of attention to more AI research themes has been expanded, striving to present a richer and more diverse technological evolution and academic dynamics.

Year-on-year Comparison:

For indicators with consistent data definitions, cross-year comparisons have been added to more clearly reveal evolutionary trends and key changes.

Enhanced Missing Data Imputation Strategy:

Considering the significant increase in the number of countries and the quality of data and score, the strategy for handling missing data has been optimized. Imputation is performed by combining the historical data performance of the indicators and the correlations between indicators to enhance the rationality and consistency of the results. Please refer to the Methodology section in the appendix for the specific methods.

Data Transparency & Evidentiary Table Added:

On the basis of expanded coverage and optimized imputation methods, clear annotations on data coverage are presented, emphasizing the boundary conditions for data use, while encouraging readers to supplement more

precise official data sources based on actual needs.

1.2. Indicator system

The AGILE (AI Governance International Evaluation) Index is built on the core principle that "the level of governance should match the level of development". It emphasizes that at different stages of AI development, there should be corresponding governance mechanisms and institutional arrangements to ensure a positive interaction between technological innovation and societal well-being—maximizing the benefits of AI while minimizing its potential risks. The table below outlines the AGILE Index's 4 pillars, 17 dimensions, and 43 indicators. For an in-depth understanding of each indicator, including their data sources and the methodology used for the index score calculation, please see **Appendices 1 and 2**.

Table 1 AGILE Index Dimensions and Indicators (The newly added indicators are shown in bold.)

Pillars	Dimensions	Indicators
P1. Development Level	D1. AI Research and Development Activity	D1.1. Number of publications in AI-related journals/conferences & the per capita ratio
		D1.2. Number of professionals in the field of AI & the per capita ratio
		D1.3. Number of granted AI patents & the per capita ratio
		D1.4. Number of AI systems developed & the GDP ratio
	D2. AI Infrastructure	D2.1. Number of colocation data centers & the per capita ratio
		D2.2. Non-distributed supercomputers floating point operations per second & the per capita ratio
		D2.3 Internet infrastructure level
	D3. AI Industry Vitality	D3.1. Private investment in AI & the GDP ratio

		D3.2. Number of newly funded AI companies & the GDP ratio
P2. Governance Environment	D4. AI Risk Exposure	D4.1. Number of AI-related risk cases/incidents & the GDP ratio
	D5. AI Governance Readiness	D5.1. Overall assessment of the level of governance in the country
		D5.2. Overall level of digital development in the country
		D5.3. Overall process of achieving sustainable development goals in the country
P3. Governance Instruments	D6. AI Strategy & Planning	D6.1. Whether an AI strategy has been released in the country
		D6.2. Whether the AI strategy has implementation plans
		D6.3. Whether the AI strategy mentions training or skills upgrading
		D6.4 Whether the AI strategy has an ethical component
	D7. AI Governance Bodies	D7.1. Whether AI governance bodies have been established or designated in the country
	D8. AI Principles & Norms	D8.1. Whether governments have issued national-level AI principles or norms
	D9. AI Impact Assessment	D9.1. Whether governments have introduced AI impact assessment mechanisms
	D10. AI Standards & Certification	D10.1. Whether governments have developed national-level standards and certification mechanisms for AI
	D11. AI Legislation Status	D11.1. Whether countries have enacted or are in the process of enacting comprehensive national laws or regulations specifically targeting AI
		D11.2. Whether countries have established national-level vertical laws or

		regulations specifically addressing AI
		D11.3. Whether countries have implemented national-level data/information protection laws pertaining AI
	D12. Global AI Governance Engagement	D12.1. The participation level in international AI governance mechanisms
		D12.2. The participation level in ISO AI standardization
P4. Governance Effectiveness	D13. Public Understanding of AI	D13.1. The AI-related skill proficiencies of the public
		D13.2 The level of the public's discussion of AI
		D13.3. The level of the public's awareness of AI's impact
	D14. AI Social Acceptance	D14.1. The level of the public's overall recognition towards AI's development
		D14.2. The level of the Public's stable expectations on AI's impact on daily life
		D14.3. The level of the public's trust in AI Applications
		D14.4. The level of enterprises' positive attitudes towards AI's adoption
	D15. AI Development Inclusivity	D15.1. Gender ratio of AI literature authors
		D15.2. Internet gender equality
		D15.3. Share of young female who can program
		D15.4. Share of the aged using the internet

		D15.5. Share of the low-income internet users
	D16. Data & Algorithm Openness	D16.1. Number of impactful open AI models and datasets released
		D16.2. The level of contributions in the AI developer community
	D17. AI Governance Research Activity	D17.1. Total number & the proportion of literature on AI governance topics
		D17.2. Total number & the proportion of literature on AI safety topics
		D17.3. Total number & the proportion of literature on AI for SDGs topics

II. Overview

2.1. Score Composition

Table 2 ***AGILE Index Total Score, Pillar Score, and Dimension Score***

	AGILE INDEX	Rank	D1	D2	D3	P1	D4	D5	P2	D6	D7	D8	D9	D10	D11	D12	P3	D13	D14	D15	D16	D17	P4
China	70.1	1	75.5	50.6	55.4	60.5	48.5	68.7	58.6	100.0	100.0	100.0	0.0	100.0	83.3	87.5	81.5	100.0	99.5	45.4	91.0	63.8	79.9
US	69.9	2	82.6	100.0	100.0	94.2	0.0	80.0	40.0	100.0	100.0	100.0	100.0	100.0	50.0	87.5	91.1	48.2	21.7	27.0	100.0	74.7	54.3
Germany	69.2	3	52.5	78.8	43.6	58.3	73.0	86.7	79.8	100.0	100.0	100.0	0.0	100.0	100.0	93.5	84.8	27.8	42.9	56.0	84.8	57.3	53.8
S.Korea	68.2	4	59.8	46.0	43.3	49.7	58.5	86.0	72.3	100.0	100.0	100.0	100.0	100.0	50.0	99.5	92.8	96.4	51.0	50.6	53.5	38.8	58.1
UK	67.9	5	63.8	64.3	74.2	67.4	12.5	86.5	49.5	100.0	100.0	100.0	100.0	100.0	83.3	93.5	96.7	55.4	32.6	60.6	82.2	60.2	58.2
Singapore	66.1	6	49.7	60.6	74.7	61.6	43.5	83.0	63.2	75.0	100.0	100.0	100.0	0.0	33.3	87.5	70.8	71.1	74.0	82.6	70.9	44.7	68.7
France	66.0	7	38.9	66.2	50.2	51.8	57.5	84.6	71.1	100.0	100.0	100.0	100.0	100.0	100.0	99.5	99.9	16.7	27.7	51.3	74.8	34.8	41.1
Canada	63.8	8	49.8	55.0	56.7	53.8	37.0	83.4	60.2	75.0	100.0	100.0	100.0	100.0	50.0	93.5	88.4	57.3	27.3	59.5	68.7	51.7	52.9
Japan	61.8	9	47.2	72.0	24.0	47.7	72.0	84.9	78.5	100.0	100.0	100.0	100.0	0.0	16.7	99.5	73.7	77.8	31.1	43.8	50.6	33.2	47.3
Finland	61.0	10	40.7	89.6	65.2	65.2	82.5	87.8	85.2	100.0	100.0	0.0	0.0	0.0	66.7	57.5	46.3	95.7	13.5	57.2	33.2	38.2	47.6
Netherlands	59.4	11	36.3	73.1	37.8	49.1	68.0	85.1	76.5	100.0	0.0	0.0	100.0	0.0	100.0	87.5	55.4	58.7	34.5	69.7	77.0	42.5	56.5
UAE	56.8	12	25.2	47.6	67.1	46.6	70.5	77.4	73.9	50.0	100.0	100.0	100.0	0.0	33.3	23.5	58.1	41.4	55.8	83.8	33.3	28.5	48.6
Sweden	56.4	13	41.2	63.6	92.4	65.7	76.0	85.9	81.0	75.0	100.0	0.0	0.0	0.0	66.7	57.5	42.7	33.9	24.5	55.1	35.8	32.0	36.3
Denmark	55.4	14	37.4	68.9	53.1	53.1	72.5	88.8	80.6	100.0	0.0	0.0	0.0	0.0	66.7	57.5	32.0	87.2	55.8	74.8	33.2	28.2	55.8
Australia	55.4	15	48.1	65.7	20.5	44.8	37.5	85.1	61.3	75.0	100.0	100.0	0.0	100.0	50.0	87.5	73.2	39.7	22.9	29.9	55.0	63.5	42.2
Switzerland	55.2	16	55.3	98.3	35.4	63.0	58.5	84.7	71.6	75.0	0.0	100.0	0.0	0.0	0.0	79.5	36.4	46.0	35.8	75.4	60.6	31.5	49.9
Norway	55.2	17	34.4	55.7	45.0	45.0	79.0	86.4	82.7	100.0	0.0	0.0	0.0	0.0	100.0	57.5	36.8	83.8	10.3	88.3	57.6	41.0	56.2
S.Arabia	55.1	18	18.4	35.8	27.1	27.1	94.0	74.3	84.1	75.0	100.0	100.0	100.0	100.0	33.3	79.5	84.0	11.0	25.3	22.3	20.7	47.2	25.3
Italy	54.3	19	27.1	79.0	24.7	43.6	66.0	79.2	72.6	100.0	100.0	0.0	0.0	0.0	100.0	87.5	55.4	26.9	57.2	46.8	42.4	54.7	45.6
Spain	52.1	20	30.6	58.6	20.7	36.6	66.0	83.7	74.9	100.0	100.0	0.0	0.0	0.0	66.7	79.5	49.5	37.6	44.6	60.4	47.5	47.3	47.5
Malaysia	51.7	21	35.3	57.2	46.3	46.3	66.0	72.2	69.1	100.0	100.0	100.0	0.0	0.0	0.0	50.0	50.0	17.4	72.0	66.8	19.2	32.2	41.5
Indonesia	51.5	22	8.6	39.3	24.0	24.0	89.5	67.5	78.5	100.0	100.0	100.0	0.0	0.0	0.0	29.5	47.1	53.2	96.1	68.8	26.8	36.8	56.3
Türkiye	47.2	23	6.9	20.8	13.8	13.8	94.0	70.9	82.5	100.0	100.0	100.0	0.0	0.0	16.7	79.5	56.6	52.0	67.6	16.5	17.1	25.3	35.7
Ireland	47.1	24	34.8	57.4	46.1	46.1	47.0	83.1	65.1	100.0	0.0	0.0	0.0	0.0	66.7	73.5	34.3	49.4	32.5	67.5	26.3	39.3	43.0
Thailand	46.3	25	25.6	19.0	22.3	22.3	80.5	72.6	76.6	100.0	0.0	100.0	0.0	0.0	16.7	7.5	32.0	31.5	96.6	81.8	22.6	40.0	54.5
Portugal	45.9	26	29.9	27.0	28.4	28.4	84.5	79.6	82.1	100.0	0.0	0.0	0.0	0.0	66.7	57.5	32.0	70.1	21.8	49.0	21.9	41.8	40.9
Israel	45.6	27	42.5	48.7	69.5	53.5	28.5	75.6	52.0	100.0	0.0	100.0	0.0	0.0	33.3	57.5	41.5	47.1	35.3	31.0	36.5	26.5	35.3
Belgium	45.5	28	23.8	28.6	26.2	26.2	61.0	80.2	70.6	100.0	100.0	0.0	0.0	0.0	66.7	57.5	46.3	53.1	21.9	54.5	45.5	18.8	38.8
Chile	45.4	29	14.3	52.3	33.3	33.3	93.5	76.4	84.9	100.0	0.0	0.0	0.0	0.0	50.0	29.5	25.6	25.7	56.5	61.3	21.2	24.5	37.8
Russia	44.7	30	18.2	32.0	25.1	25.1	41.0	65.0	53.0	100.0	100.0	100.0	0.0	100.0	66.7	50.0	73.8	47.5	27.0	2.4	40.8	17.3	27.0
Mexico	44.2	31	12.2	10.2	11.2	11.2	89.5	66.1	77.8	75.0	100.0	100.0	0.0	0.0	16.7	29.5	45.9	72.1	84.3	13.8	20.3	20.0	42.1
Poland	43.6	32	28.2	42.4	35.3	35.3	73.0	78.1	75.6	75.0	0.0	0.0	0.0	0.0	66.7	57.5	28.5	60.0	37.3	24.6	35.4	18.2	35.1
N.Zealand	42.3	33	29.2	69.2	49.2	49.2	35.0	86.7	60.8	75.0	0.0	100.0	0.0	0.0	0.0	73.5	35.5	23.9	37.1	5.7	25.8	26.0	23.7
Hungary	41.8	34	29.2	15.8	22.5	22.5	88.0	75.0	81.5	100.0	0.0	0.0	0.0	0.0	66.7	57.5	32.0	35.1	53.8	36.3	20.9	9.8	31.2
India	41.4	35	27.9	31.3	40.8	33.3	23.5	65.0	44.2	50.0	0.0	0.0	100.0	0.0	0.0	79.5	32.8	45.9	68.0	40.8	71.2	49.7	55.1
Peru	41.3	36	22.4	13.8	18.1	18.1	94.0	68.2	81.1	75.0	0.0	0.0	0.0	0.0	16.7	7.5	14.2	53.3	88.0	76.9	13.6	26.7	51.7
Brazil	41.2	37	16.9	30.9	16.2	21.3	83.5	72.5	78.0	100.0	0.0	0.0	0.0	0.0	50.0	79.5	32.8	33.1	52.7	6.1	39.5	31.7	32.6
Argentina	37.7	38	7.3	11.1	9.2	9.2	84.5	67.9	76.2	100.0	0.0	100.0	0.0	0.0	0.0	7.5	29.6	7.1	62.4	82.8	19.6	6.7	35.7
Colombia	37.5	39	13.0	17.8	15.4	15.4	90.5	68.7	79.6	100.0	0.0	0.0	0.0	0.0	50.0	7.5	22.5	43.4	69.0	0.0	29.1	21.8	32.6
S.Africa	34.4	40	5.4	28.9	17.1	17.1	58.0	63.6	60.8	75.0	0.0	0.0	0.0	0.0	0.0	0.0	10.7	40.6	75.4	73.3	15.1	39.8	48.8

2.2. Overall Observations

Key observation 1: Based on the score distribution of the AGILE Index, the 40 evaluated countries can be categorized into three tiers, with Pillar 1 (Development Level) and Pillar 3 (Governance Tools) being the key variables that differentiate countries.

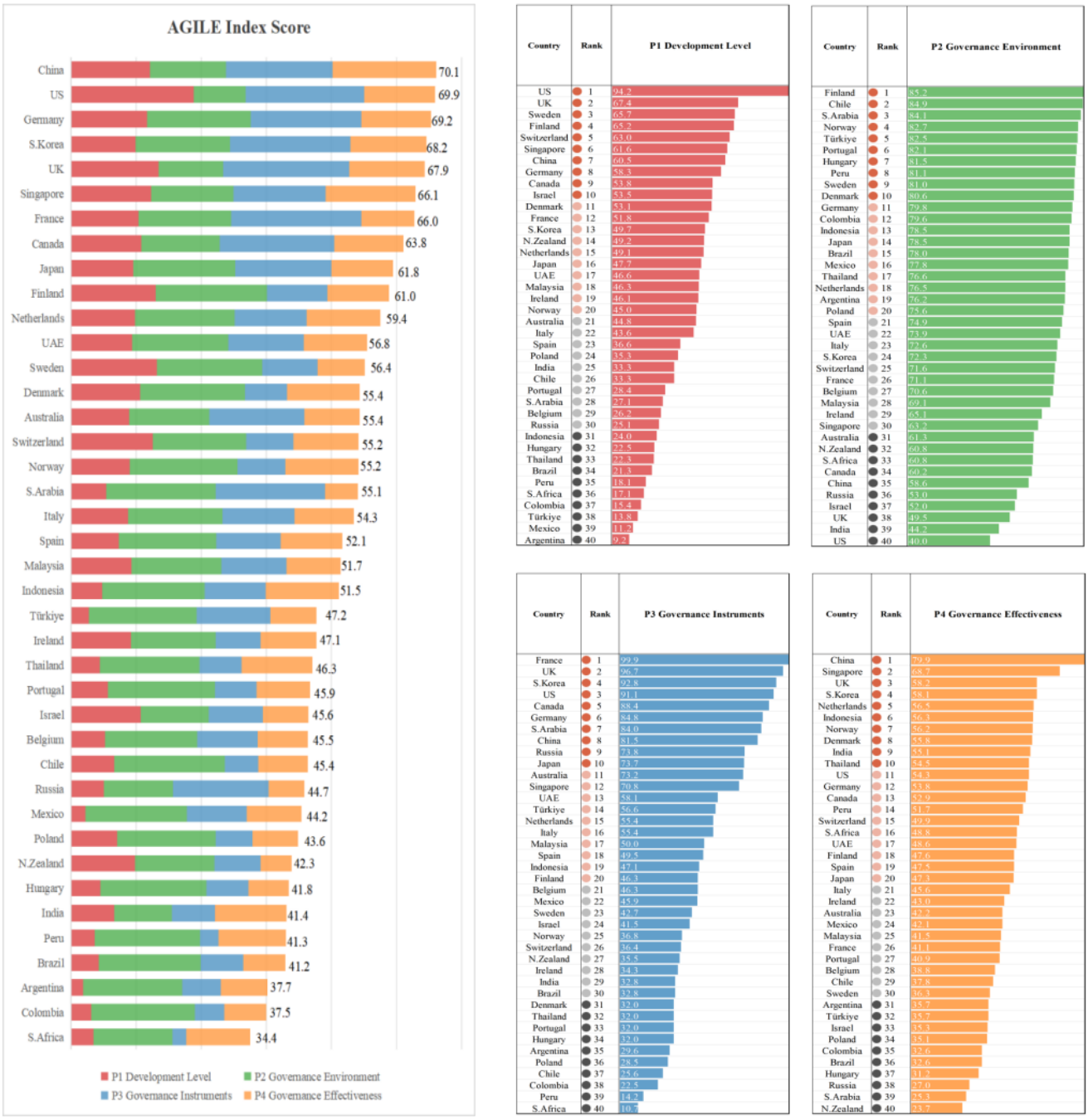


Figure 1 ***AGILE Index Scores, Pillar Scores and Ranking***

According to the score distribution figure of the AGILE Index, the 40 evaluated countries can be grouped into three tiers: Tier 1 includes countries such as China, the United States, and Germany with scores above 60; Tier 2 comprises countries like the Netherlands, the United Arab Emirates, and Sweden with scores between 50 and 60; Tier 3 consists of countries such as Türkiye, Ireland, and Thailand with scores below 50.

Among the four pillars, Pillar 1 (AI Development Level) and Pillar 3 (Governance Instruments) exhibit significantly higher score dispersion compared to Pillar 2 (Governance Environment) and Pillar 4 (Governance Performance), revealing a more pronounced tiered differentiation. The score gaps between leading and lagging countries are notably wide (P1max: 94.2, min: 9.2; P3max: 99.9, min: 10.7). In contrast, the distributions of Pillar 2 and Pillar 4 scores are more concentrated, with smaller differences across tiers than those observed in P1 and P3.

Key observation 2: Among the 14 countries evaluated last year, the ranking changes reveal a pattern of intense competition among top - tier countries and relative stability for lower - ranked ones, with key shifts like the US - China swap.

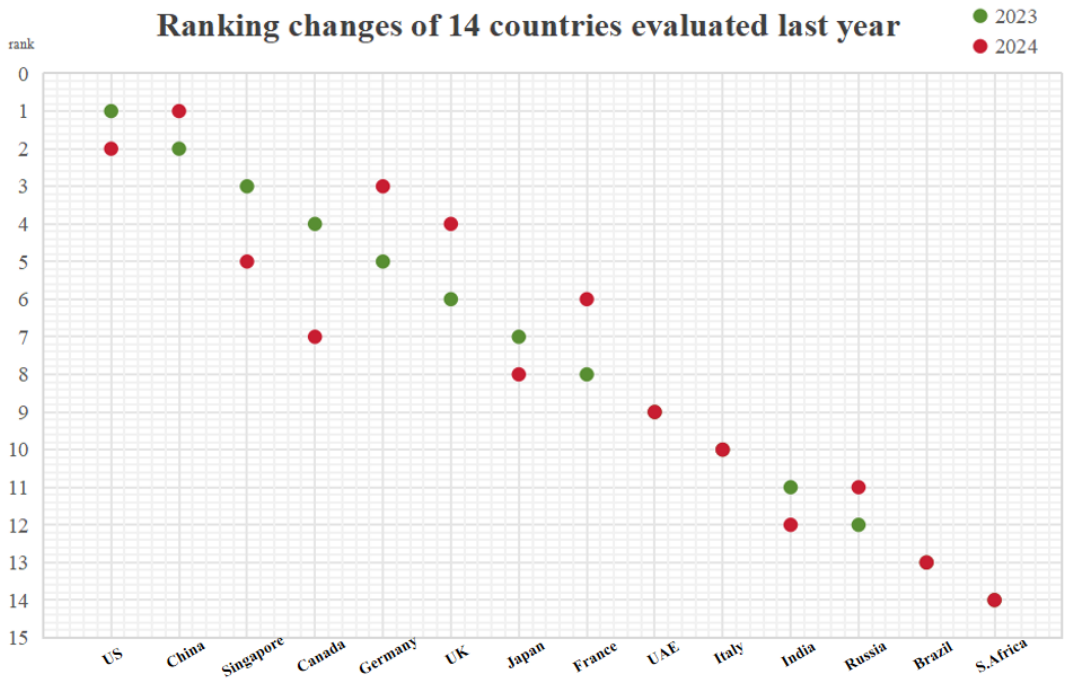


Figure 2 Ranking change of 14 countries evaluated last year

The 14 countries evaluated last year have experienced changes in their rankings as of 2024. Overall,

there was a fierce competition among the top-ranked countries, while the bottom-ranked countries remained relatively stable. The United States dropped to second place primarily due to the impact of its more lenient policy trend on AI legislation. Following the repeal of the Executive Order 14110 - *Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence*, the country is in the process of drafting new comprehensive legislation, which has led to a decline in its score on this indicator and significantly affected its overall ranking. Meanwhile, China has moved into first place. Some countries like Singapore and Canada saw significant ranking fluctuations. In contrast, the rankings of lower - tier nations such as Brazil, South Africa remained relatively stable. Overall, the pattern shows intensified competition at the top and relative stability at the bottom.

Key observation 3: There is a positive correlation between AGILE Index score and the GDP per capita.

The AGILE Index demonstrates a positive correlation with the per capita GDP of various countries. The data shows that countries with higher per capita GDP tend to have higher AGILE index scores. This positive correlation suggests that development is the foundation of governance. As the scope of the evaluation expands, it also shows that countries with lower per capita GDP can also score higher, and vice versa, indicating that AI governance levels are not solely dependent on development levels.

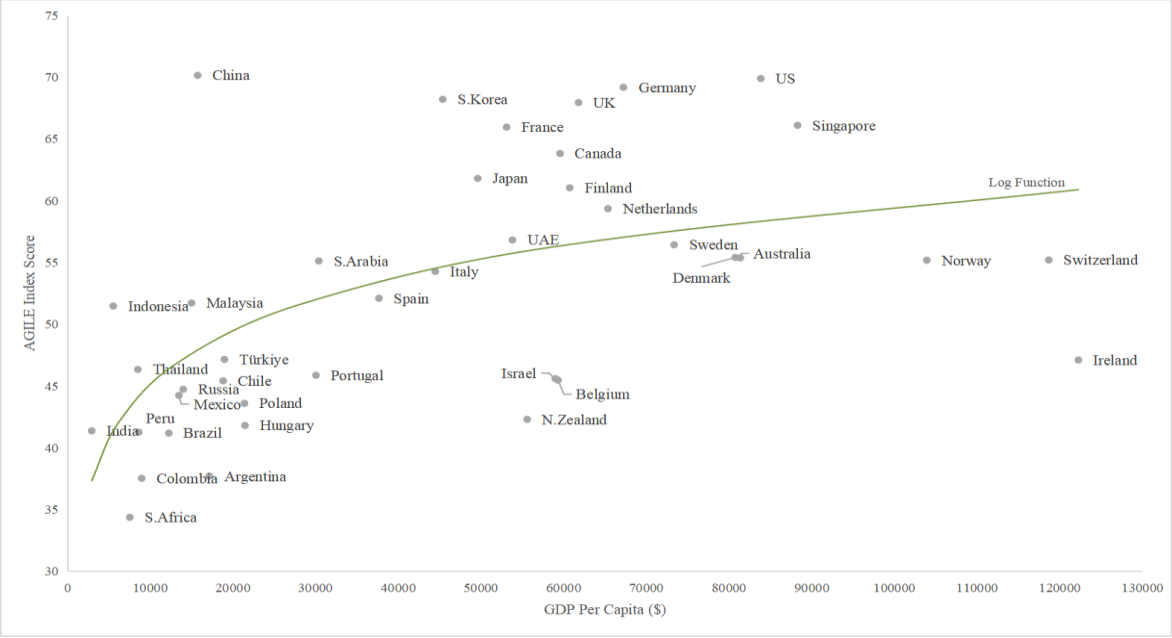


Figure 3 ***Positive relationship between AGILE Index score and the GDP per capita***

Key observation 4: The performance of the 40 countries across the four pillars of the AGILE Index reveals four distinct types of AI governance.

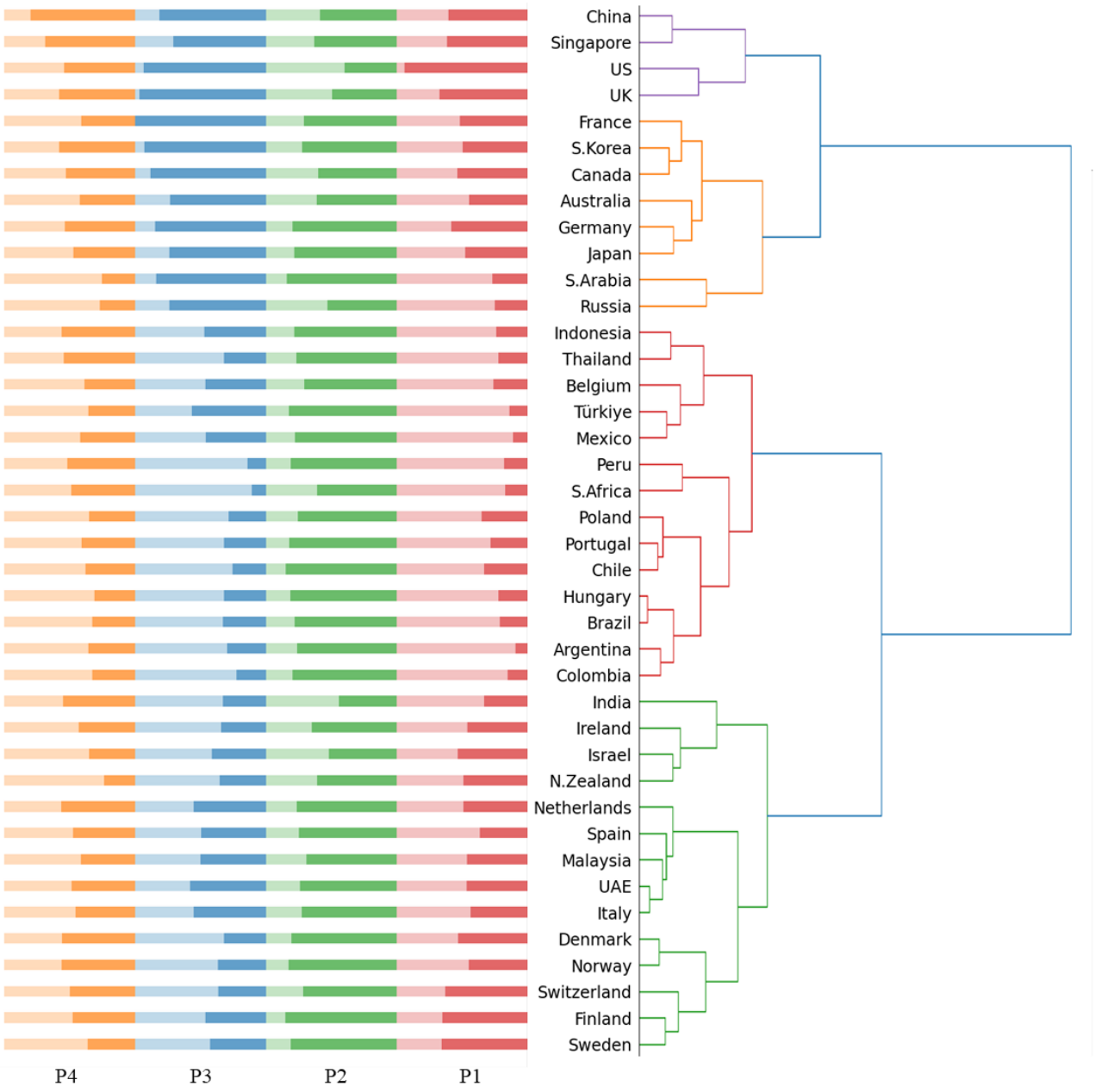


Figure 4 ***Four Types of 40 countries' AGILE Index pillar score distribution***

Further analysis of AGILE Index scores of the 40 countries across the four pillars show a clear stratification, forming four distinct governance types. Countries like the United States, China, and Singapore—score highly and evenly across all four pillars, demonstrating well-rounded strengths.

Compared to the first type, countries like Germany, Canada, and Japan maintain relatively high levels in governance environment and instruments, but lag in R&D level and governance effectiveness. Their governance profile can be characterized as partially lagging performers. Represented by countries like Indonesia and Thailand, this cluster scores consistently low across all four pillars, with particular weaknesses in Pillar 1 and Pillar 3. This reflects a dual shortfall in AI development level and governance instruments, highlighting the urgent need to strengthen foundational development. The last type comprising some Middle Eastern and Latin American countries—features a mismatch between AI development and governance instrument. These countries experience rapid progress in AI research and application, but significantly lag in areas such as governance tool development and policy framework building, indicating an imbalanced trajectory between technological advancement and governance readiness.

Key observation 5: High-income countries show a clear advantage over non–high-income group in both P1 AI development level and P3 governance instrument, while the latter outperform in P2 governance environment and P4 governance performance due to lower AI risk exposure and higher public acceptance of AI.

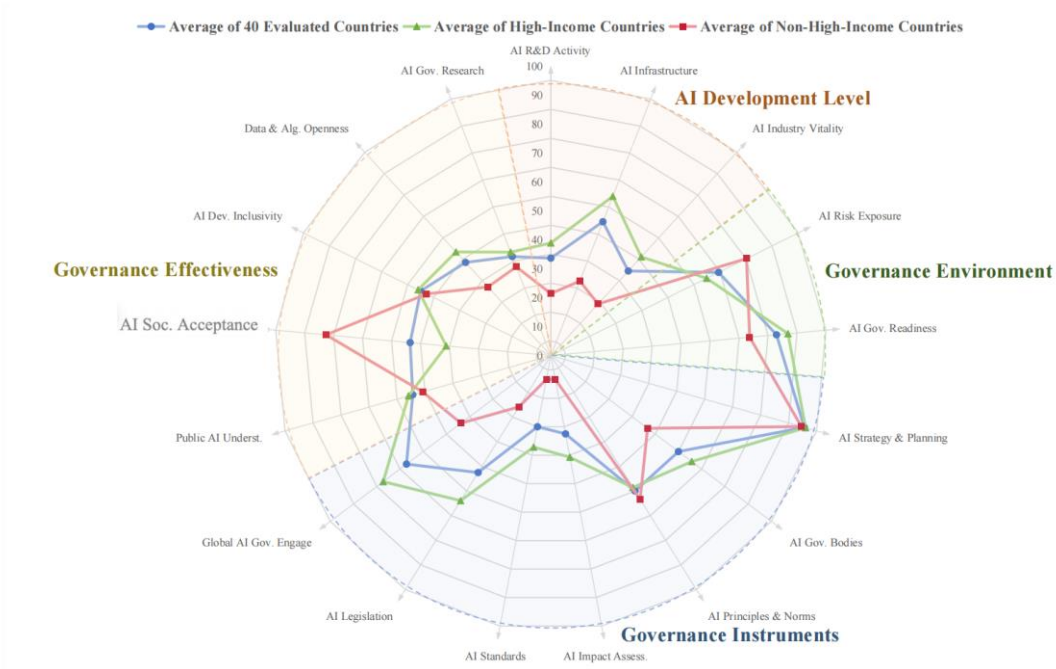


Figure 5 ***Dimension average for high-income countries, non-high-income countries, and both groups***

The average scores for high-income countries across the four pillars—AI Development Level (P1), Governance Environment (P2), Governance Instruments (P3), and Governance Effectiveness (P4)—are 48, 71, 58, and 45, respectively. For non–high-income countries, the corresponding averages are 24, 72, 38, and 47.

High-income countries lead non–high-income countries by a wide margin in P1 and P3, whereas non–high-income countries have a slight edge in P2 and P4. This reflects the strong performance of high-income countries in technical development and governance instruments building, while non–high-income countries benefit from significantly lower AI risk exposure and higher social acceptance of AI—indicators that contribute to their relative strengths in P2 and P4.

III. Analysis and Observations

3.1 Pillar 1: AI Development Level

Pillar 1 Overview：The AGILE index evaluates the level of AI development in countries from three dimensions: AI Research and Development Activity and AI Infrastructure and AI Industry Vitality.

Table 3 The total data on AI development across 40 countries

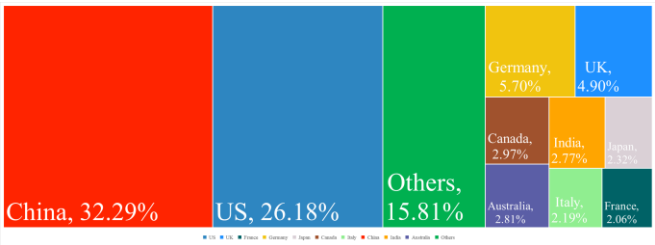
AI Related Article Authors	AI Related Articles	AI Related Patents	Significant AI System	(pFLOP/s [RMax]) Supercomputer Operations	Colocation Data Centers
420K	200K	16k	375	11.6M	8K
From April 2024 to March 2025			*Till March 2025*		

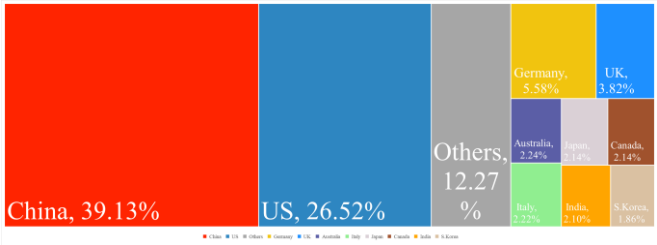
In summary, among the 40 countries assessed, the data from April 2024 to March 2025 show a total of over 420,000 AI professionals, over 200,000 research papers published, and nearly 160,000 patents shared.Till March 2025, these countries operate nearly 375 significant AI systems, possess a combined supercomputer computing power of over 11.6 million pFLOP/s, and have over 8,000 hosted data centers to facilitate various AI R&D activities.

Observation 1.1: China and the United States each exhibit distinct strengths in AI development—China in AI-related publications and patents, and the U.S. in supercomputing power, private investment, and startup funding—together serving as twin engines driving global AI progress, with other countries trailing across multiple indicators.

In the multi-dimensional assessment of AI development levels, China and the United States stand out with distinct strengths across key indicators. In terms of research papers, China has 66,857 AI-related journals/conferences, while the United States has 54,215, with the two countries accounting for about 58.35% of the total, more than half, dominating the output of research papers. In terms of patents, based on data from the World Intellectual Property Organization (WIPO), China has 12,094 AI patents, while the United States has 3,830, with China and the United States jointly accounting for

about 91.66%, reflecting their active efforts in AI technology intellectual property reserves. In terms of computing power resources, in non-distributed supercomputing RMAX floating-point operation performance, the United States leads with 6.48 million PFlop/s, with significant gaps for China and others. In the industrial financing dimension, the AI companies financing scale in the United States is $109.1 billion, showing stronger capital market support; the number of newly financed companies is 6,956 in the United States and 1,605 in China, with the United States being about 4.33 times that of China, although the gap is significant, China also demonstrates considerable entrepreneurial vitality. Overall, China and the United States each have their own strengths in AI development and jointly lead, together serving as twin engines driving global AI progress, with other countries trailing across multiple indicators.Moreover, Germany and the United Kingdom also performed well in most areas, while South Korea's impressive performance in AI system development and patents highlights its significant capabilities.





Observation 1.2: Countries with a higher total GDP tend to perform better in terms of the number of AI-related journals/conferences and AI professionals.

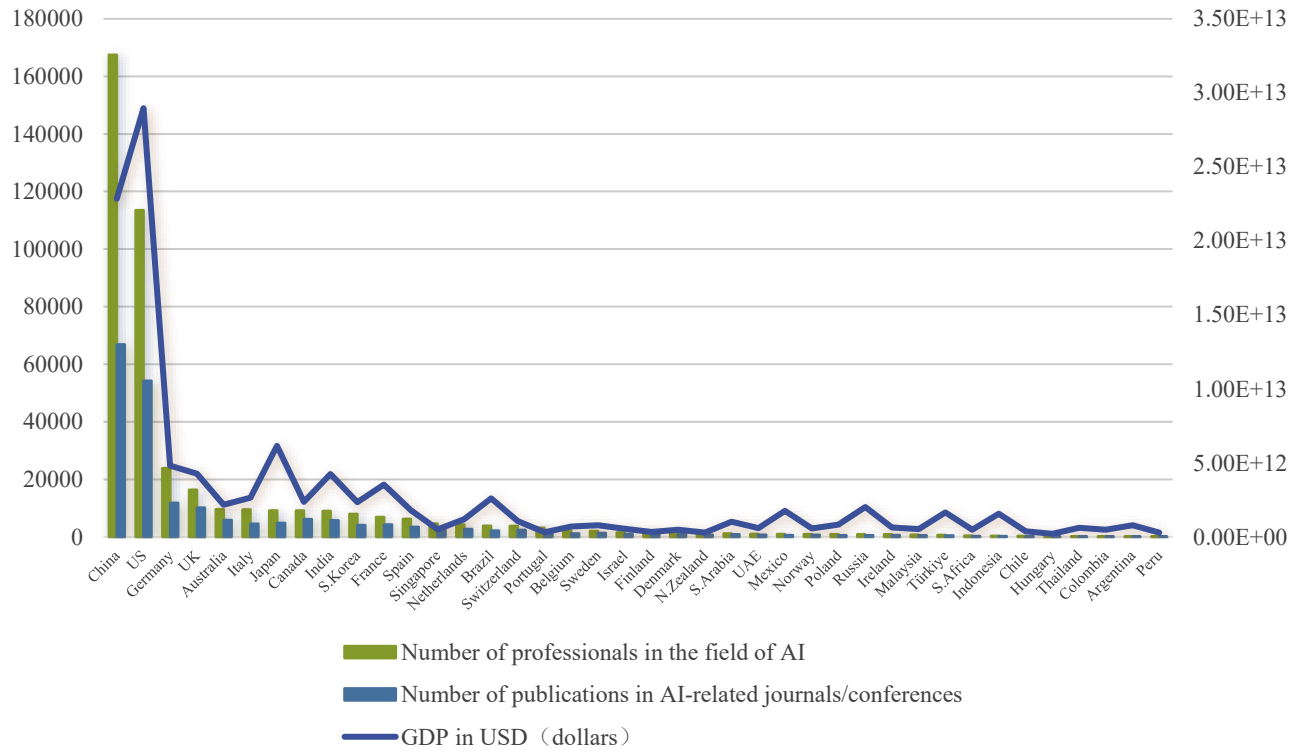


Figure 6 Number of AI-related journals/conferences & professionals

Data source: Based on statistical analysis of the DBLP Computer Science Bibliography literature database (Data from April 2024 to March 2025)

According to DBLP data, countries with higher total GDP generally perform better in terms of the number of publications in AI-related journals/conferences and the number of AI professionals. The United States, China, Germany, and the United Kingdom, as countries with high global GDP rankings, also rank highly in terms of the number of AI publications and AI professionals. Economic strength provides strong support for AI talent reserves and the output of scientific research results. Conversely, countries with relatively lower GDP show significantly weaker data in terms of AI professionals and scientific research achievements, reflecting the fundamental enabling role of economic scale in the allocation and investment of AI development resources. That is, stronger economic power often drives the aggregation of more abundant AI talent, produces more scientific research results, and builds a more competitive AI development ecosystem.

Observation 1.3: From 2010 to 2023, both the number of GenAI patents globally showed exponential growth, with the total patents increasing by about 30 times and applications by around 25 times, and the growth rate accelerated significantly after 2018. Among all the data analyzed, China accounted for 65% of the global total granted GenAI patents, far exceeding other countries and demonstrating a highly concentrated distribution.

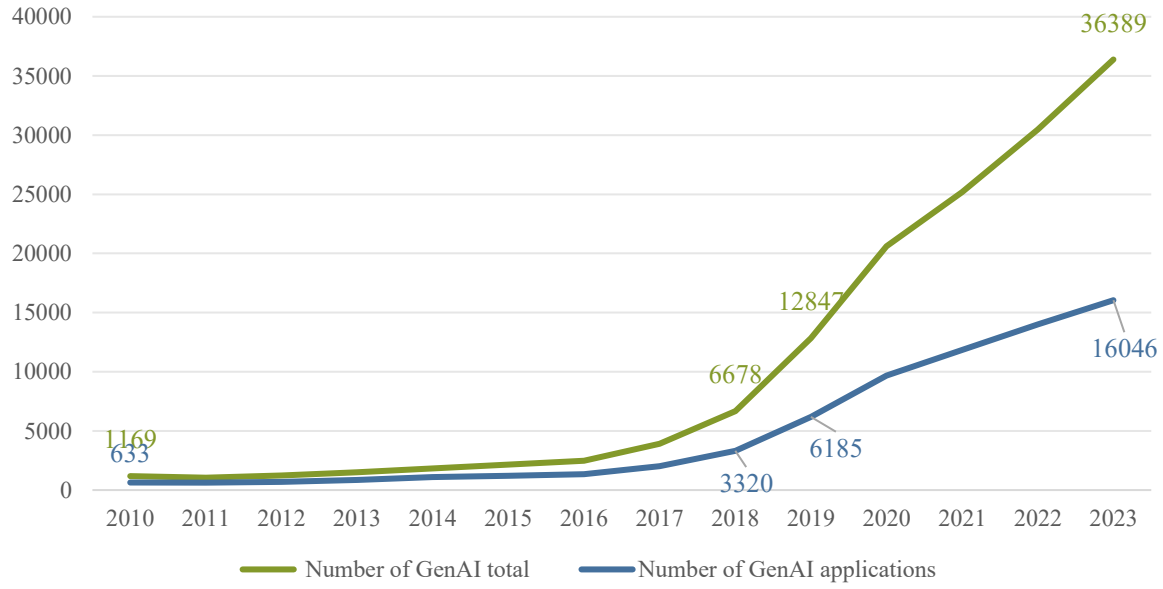


Figure 7 Annual Trends of GenAI - Related Patent Counts and Application Volumes

Data source: Based on The World Intellectual Property Organization (Data from 2010 to 2023)

From 2010 to 2023, both the total number of GenAI total patents and GenAI applications' patents show a rapid growth trend. The total number of GenAI total patents increased from 1169 in 2010 to 36389 in 2023, growing by about 30.27 times. The number of GenAI applications' patents rose from 633 in 2010 to 16046 in 2023, with a growth multiple of approximately 25.35 times. After 2018, the growth rate of both accelerated significantly and began to grow exponentially, indicating that R&D and patent - related activities in the GenAI field entered a rapid expansion phase, with continuous intensification of innovation activities.

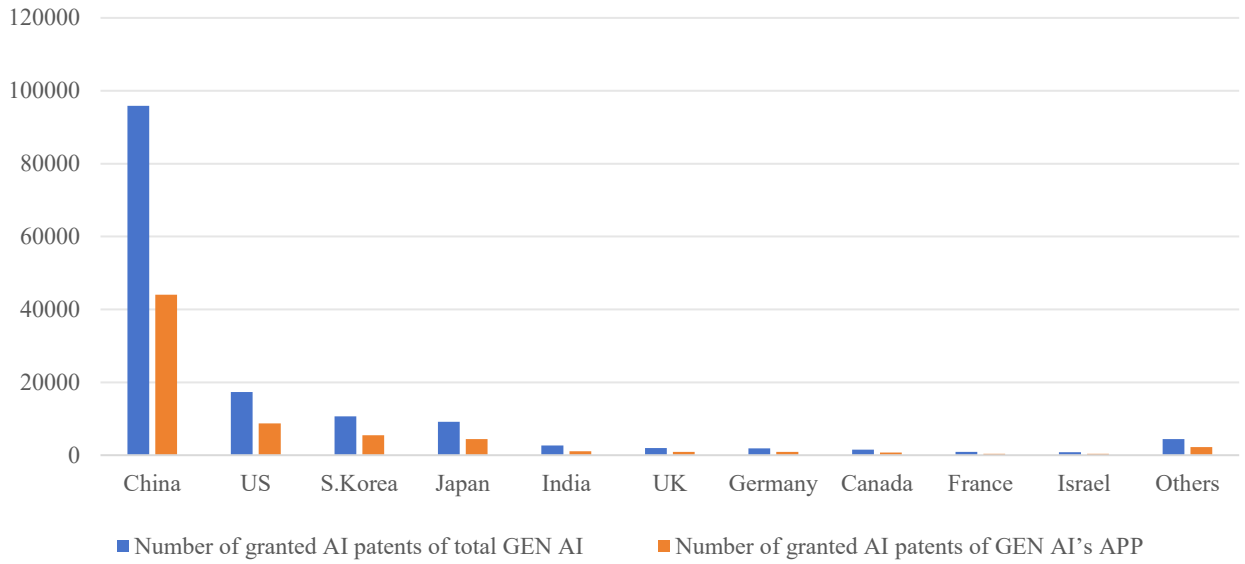


Figure 8 Distribution of Granted GenAI Patents Among Major Global Countries/Regions (By Total Quantity and Application - related Category)

Data source: Based on The World Intellectual Property Organization (Data from 1997 to 2023)

Global granted GEN AI patents are highly concentrated, with China accounting for 65% of the total GEN AI — exceeding the combined share of the U.S., South Korea, and Japan. In application - related GEN AI patents, China's proportion reaches 63%, demonstrating dominant advantages in both overall quantity and practical implementation. Other countries show significant gaps, with the U.S. ranking second about 12% and others like South Korea and Japan below 8% in both GEN AI patents' number of the total and application. This highlights China's leading position in global GEN AI patent competition.

3.2. Pillar 2: AI Governance Environment

Observation 2.1: The total number of recorded AI risk incidents continues to grow, more than doubling compared to before; the proportion of recorded AI risk incidents in the United States is declining, while the proportion of such incidents in other countries is on the rise.

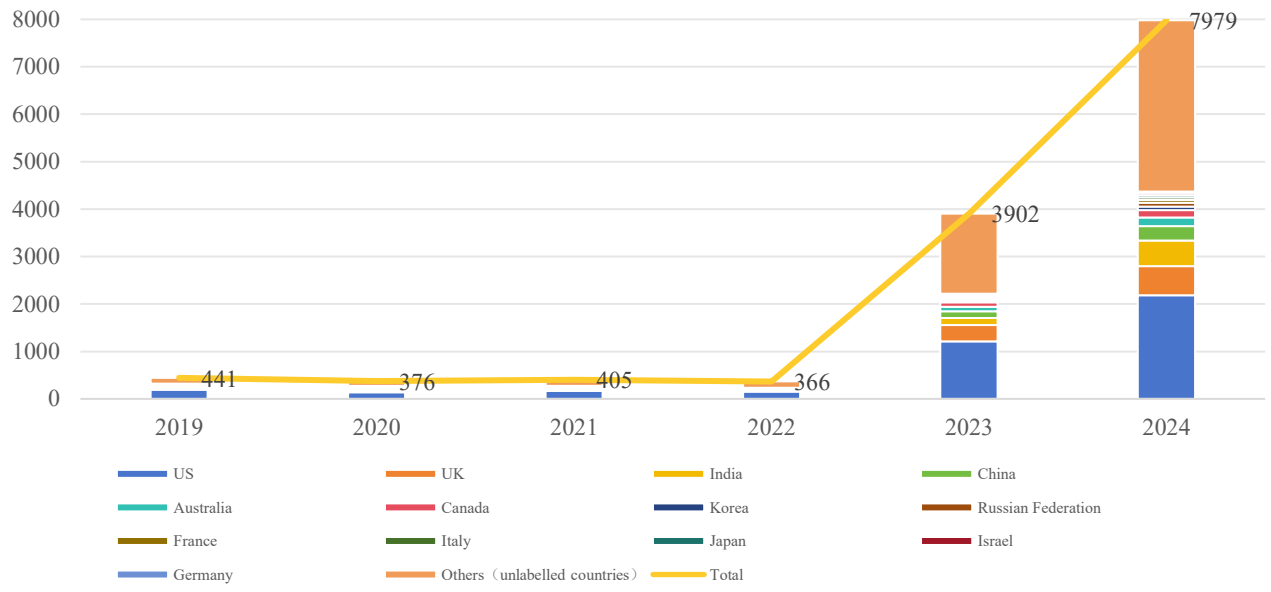


Figure 9 Changes in the Number of AI Incidents from 2017 to 2023
Data source: the OECD AI Incidents Monitor (AIM)

According to the records of the OECD AI Incident Monitoring Station (AIM), the number of recorded AI risk incidents in 2023 maintained a rapid growth trend compared to 2022. In 2024, the number of recorded AI risk incidents increased by about 4,000, with a growth rate of 104% compared to 2023, indicating an urgent need for a robust AI governance system to keep pace with the rapid development of technology.

Although the number of AI risk incidents in the United States is also rapidly increasing, the growth rate (80% from 2023 to 2024) is slightly lower compared to the total. This suggests that AI risks are spreading from early-adopter countries to a broader global scope, reflecting that as AI is accelerated in more countries and regions, the geographical distribution of risks is becoming more diverse, making the establishment of a broader, more cohesive, and more efficient global AI cooperation network more urgent.

Observation 2.2: Risk incidents pertaining to Safe & Security, Human Rights, and Data Governance are more numerous, accounting for half of the total number of risk incidents.

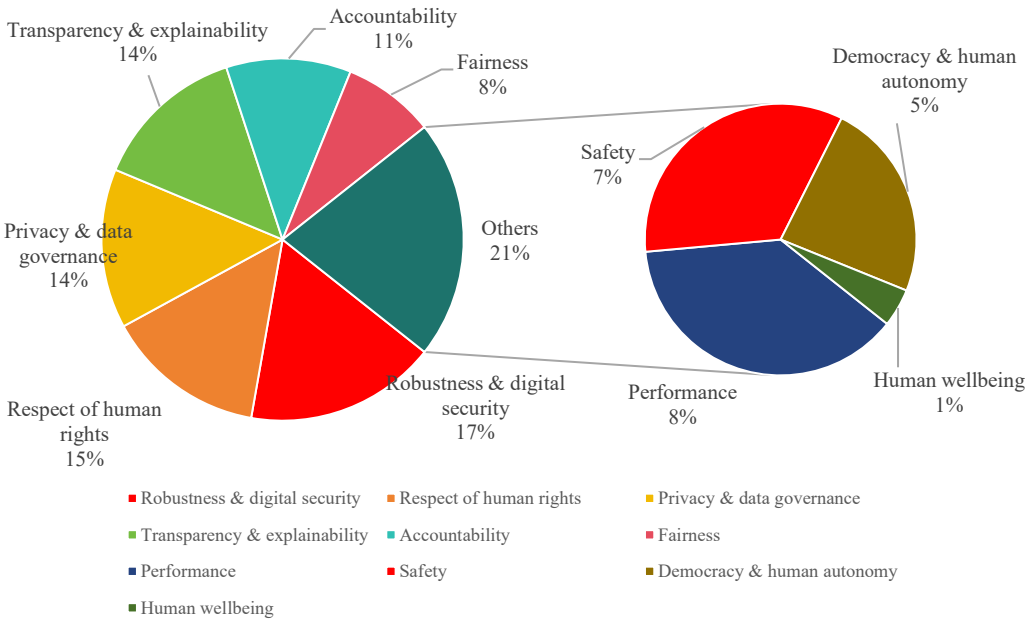


Figure 10 AI risk incident label distribution
Data source: the OECD AI Incidents Monitor (AIM)

According to the AI risk incident cases recorded by the OECD AIM up to October 2024, the most frequently reported risks relate to Robustness & Digital Security, Respect for Human Rights, and Privacy & Data Governance, indicating that technical and operational safety issues remain the most prominent concerns in current AI development. However, relatively fewer incidents are associated with Human Well-being, Democracy, and Human Autonomy—areas often linked to longer-term and systemic impacts. This highlights a dual imperative: while addressing immediate safety risks remains essential, it is equally important to anticipate and mitigate less visible but potentially profound risks to societal values. A balanced governance approach must therefore integrate both short-term risk containment and long-term ethical foresight, laying a sustainable foundation for AI development.

Observation 2.3: Although high-income countries tend to cluster at the higher end—indicating more advanced governance preparedness—the overall distribution also reflects the potential for improvement across different national contexts.

To assess government general preparedness for the growing number of AI incidents, our evaluation examines each country's overall readiness to govern AI effectively. We combine indicators from three key aspects. (1) An overall assessment of a country's governance capacity, which includes

evaluations based on the World Bank's World Governance Indicators (WGI) and the United Nations' Human Development Index (HDI); (2) Overall level of digital development in the country, which includes indices based on the World Bank's Government Technology Maturity Index (GTMI), the United Nations' E-Government Development Index (EGDI), the E-Participation Index, the International Telecommunication Union's Global Cybersecurity Index (GCI), and the Global Data Barometer funded by Canada's International Development Research Centre. (3) An assessment of a country's overall commitment to achieving Sustainable Development Goals, based on the Sustainable Development Goals Development Index 2024 (SDGDI).

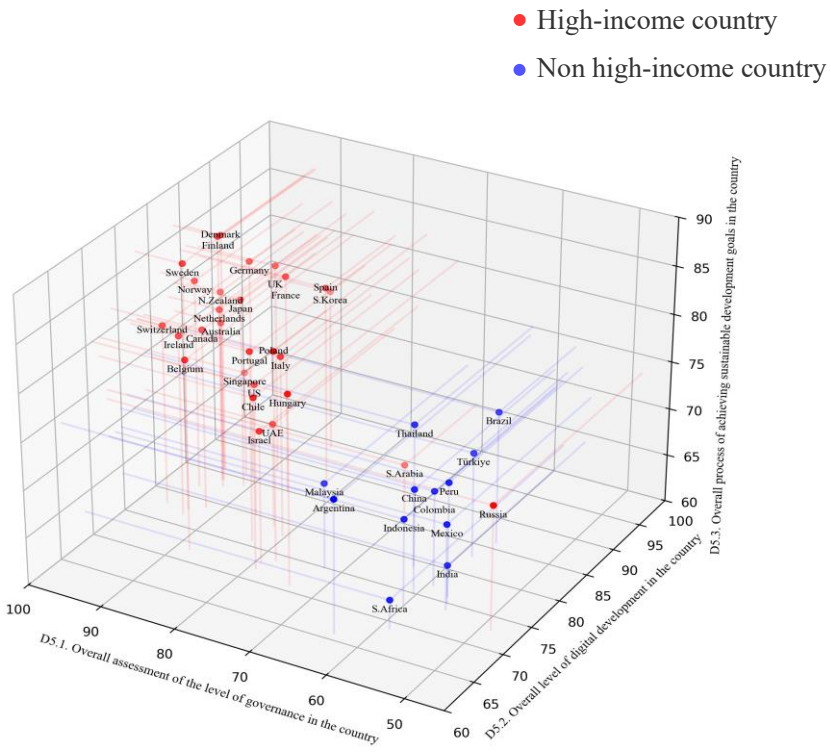


Figure 11 Composition of government overall readiness scores

In the three-dimensional evaluation system of government governance readiness (Overall assessment of the level of governance in the country, Overall level of digital development in the country, and Overall process of achieving sustainable development goals in the country), among all the countries

assessed, the majority of high-income countries outperformed non high-income countries[1] in terms of governance readiness. For example, high-income countries such as Denmark and Finland, with their mature governance systems, advanced digital infrastructure, and strong commitment to sustainable development, occupy high-dimensional advantages in the chart, becoming the "first echelon" in governance readiness. However, the advantage in governance readiness of high-income countries is the result of accumulated development and does not constitute a "threshold" for AI governance—the equality of technological iteration and the diversity of governance needs allow every country to have the opportunity to develop according to its own needs in AI governance.For instance, although the United States was in the middle of the pack in terms of overall governance readiness, it still achieved the highest score in the overall assessment of the AGILE Index. China, as an upper-middle-income country, was at the lower end of the overall governance readiness but still secured a high score in the overall assessment of the AGILE Index.

Observation 2.4: There is a notable disparity between high-income and non-high-income countries regarding the level of national governance, while the gap in the digital governance dimension is relatively smaller. This could be attributed to the fact that digital governance is less influenced by historical factors and is more substantially driven by the technological dissemination and the effective utilization of digital tools.

[1] The classification of high-income and non-high-income country groups is based on the World Bank. https://blogs.worldbank.org/zh/opendata/world-bank-country-classifications-by-income-level-for-2024-2025

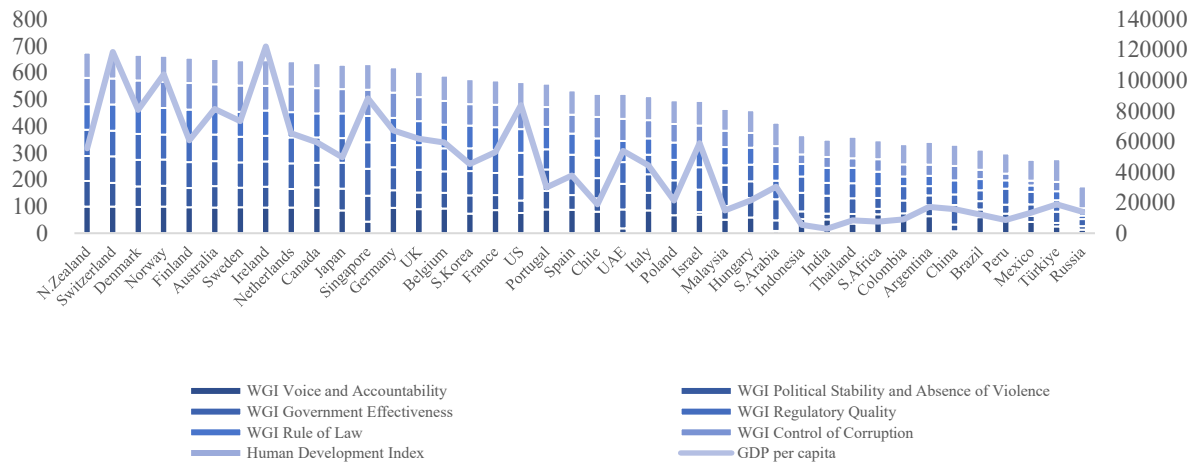


Figure 12 Overall assessment of the level of governance in the country

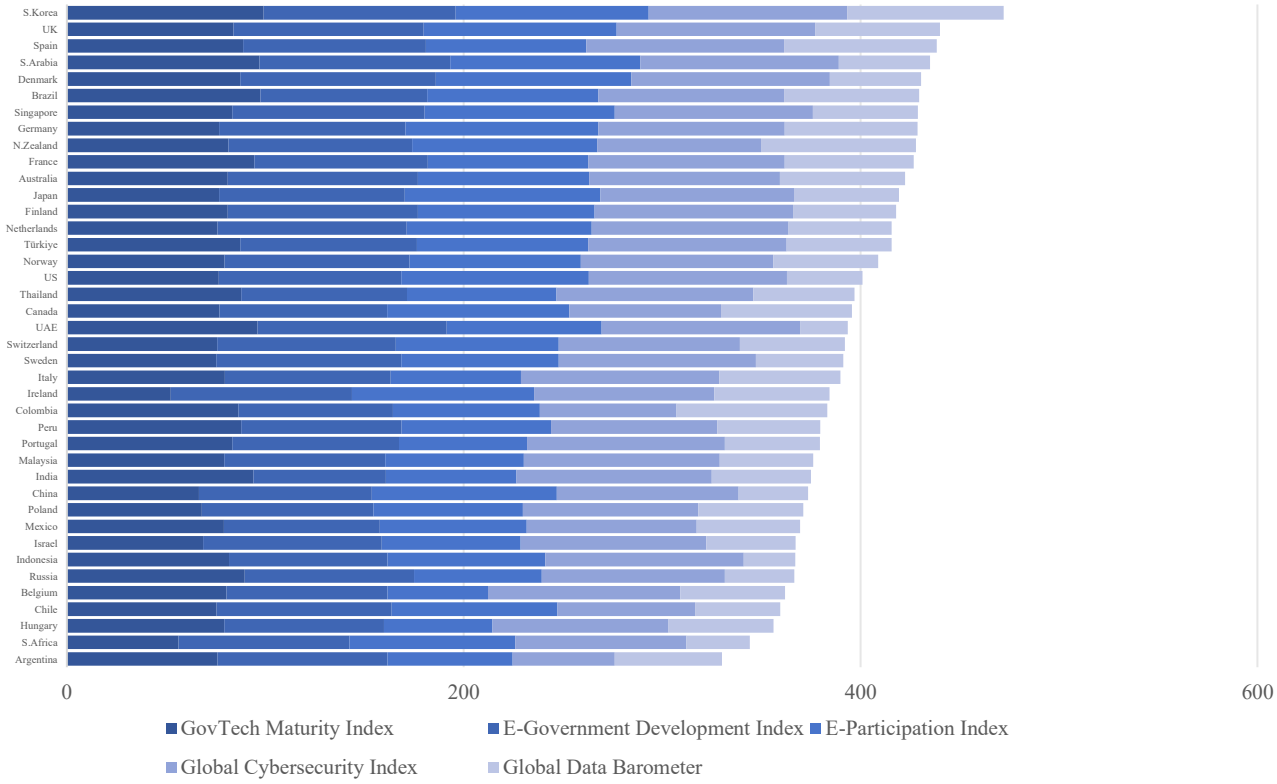


Figure 13 Overall level of digital development in the country

The figures above show that high-income countries demonstrate a significant advantage in overall governance assessments, forming a clear stratification compared to non-high-income countries. This may be associated with their long-standing economic foundations and well-established governance systems. In the domain of national digital development, the gap between high-income and

non-high-income countries is relatively smaller. This may indicate that digital governance is less constrained by historical factors and more reliant on the diffusion of technology and the effective use of digital tools. This suggests that technological accessibility may contribute to narrowing governance capacity gaps. Accordingly, building AI-related capabilities holds considerable potential for expanding access to governance resources and offers a new pathway for countries at different stages of development to enhance their AI governance capacity.

Observation 2.5: From 2023 to 2024, countries demonstrated varying degrees of progress in advancing the Sustainable Development Goals (SDGs), with some exhibiting significant year-on-year shifts.

In terms of achieving the progress toward the SDGs, the performance of some countries showed noticeable fluctuations between 2023 and 2024. The figure below illustrates the levels and dynamic changes in how countries are advancing the SDGs.

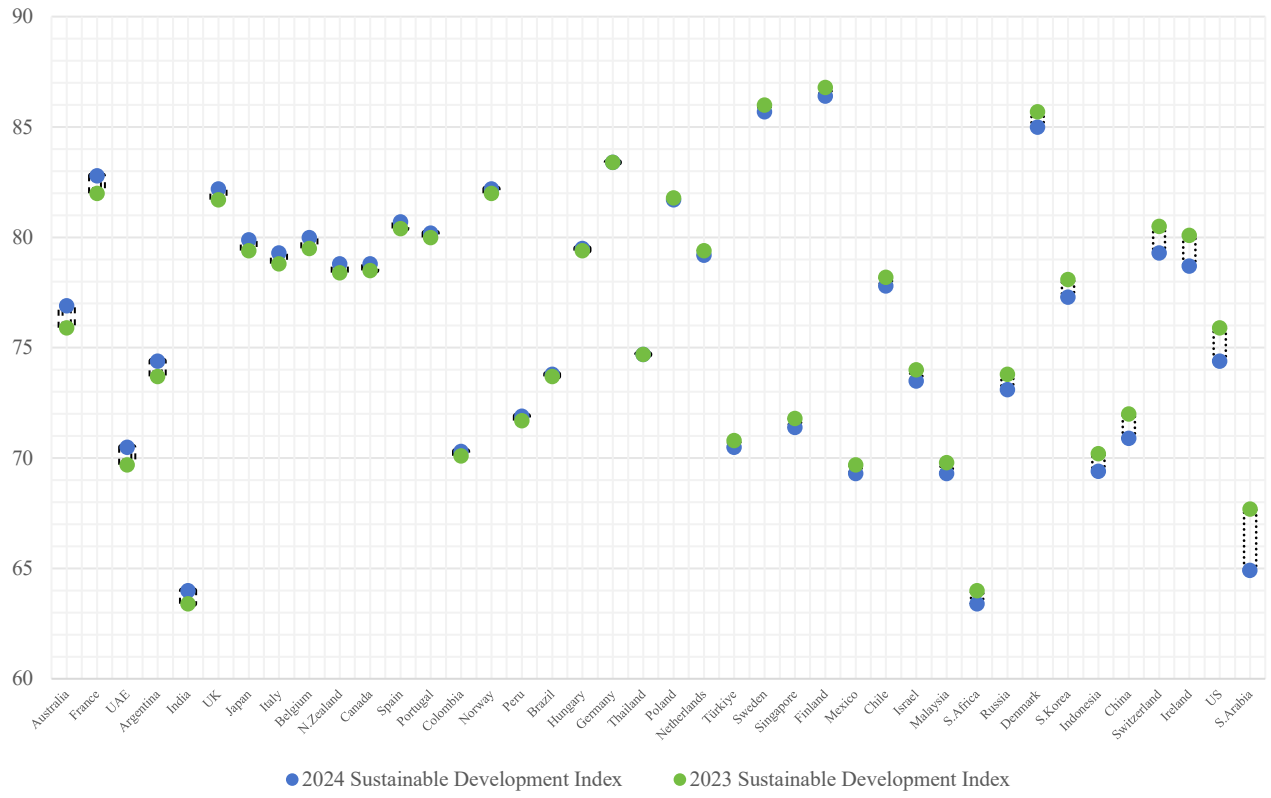


Figure 14 Overall process of achieving sustainable development goals in the country

3.3. Pillar 3: AI Governance Instruments

Pillar 3 overview: AGILE Index evaluates seven types of AI governance tools.

AI governance often relies on a variety of tools and approaches, each with its own unique characteristics. The effective use of multiple governance tools, leveraging their distinct roles, is crucial for the sound governance of AI. Among these, AI strategies and principles provide directional guidance, while AI assessments and standards serve as the scientific foundation for governance. AI legislation and governance bodies define the practical framework for AI governance. On this basis, global mechanisms that promote dialogue and collaboration bring together diverse voices, ensuring responsible AI development to safeguard the shared future of humanity.

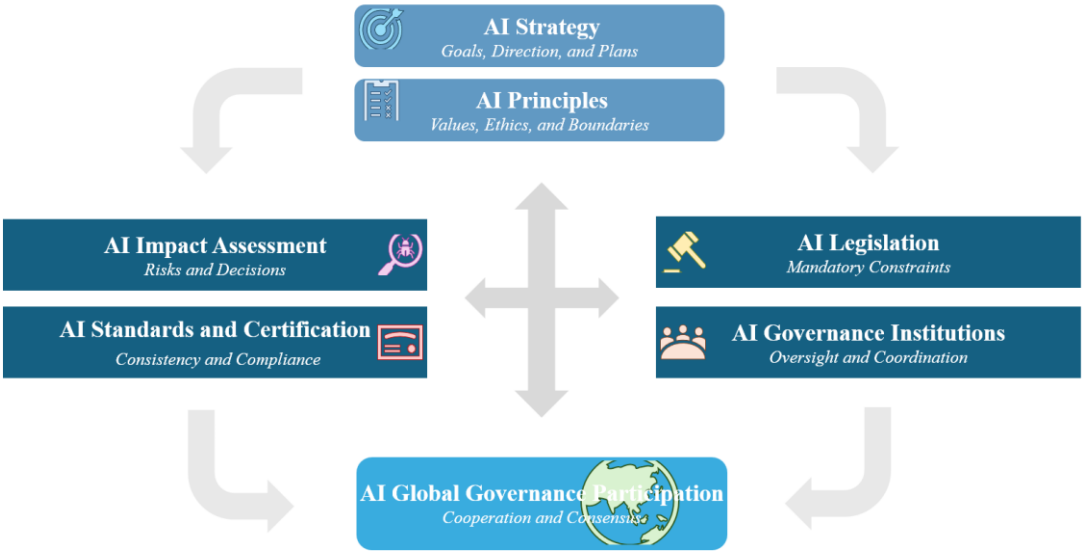


Figure 15 AI Governance Mechanism: A Holistic View

Observation 3.1: All countries evaluated in AGILE Index have published national-level strategies, and different countries have adopted different structures in the formulation of AI strategies.

The 40 countries assessed have generally performed well in the AI strategy dimension. All the countries currently under evaluation have developed national AI strategies, including South Africa, which had not yet developed one in the previous version of the AGILE Index survey. In terms of strategic timeframes, Switzerland releases an annual updated digital strategy to guide AI development, while countries such as France, Italy, Malaysia, and Turkey have formulated short-term strategies spanning 2-5 years. Indonesia's AI strategy, however, covers a 25-year period. In terms of strategic structure, countries like Argentina Ireland, and the United States, have adopted modular strategies focusing on different development pillars; countries such as China, Italy, and Peru have adopted a vertical structure presenting a systematic framework of current status-goals-action implementation; and countries like France, India, and South Africa have chosen more comprehensive strategies.

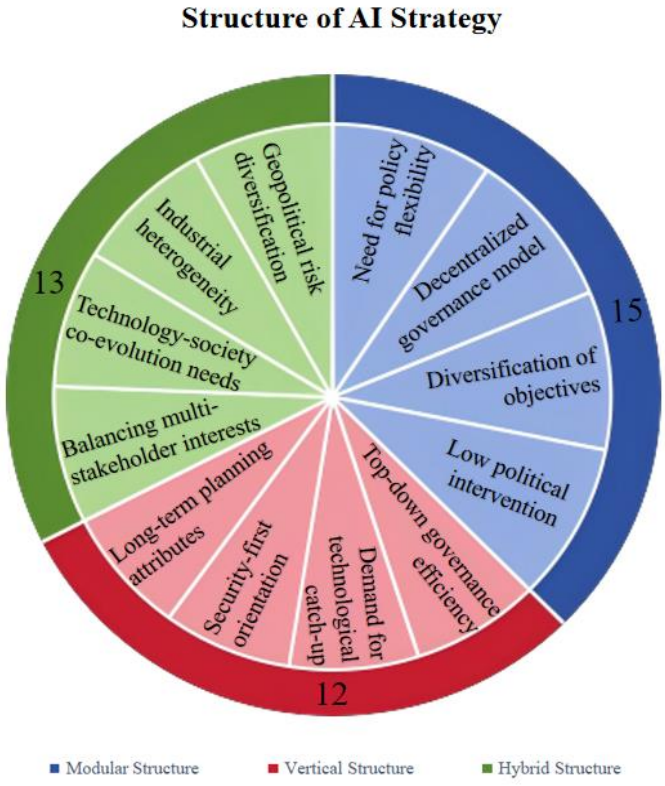
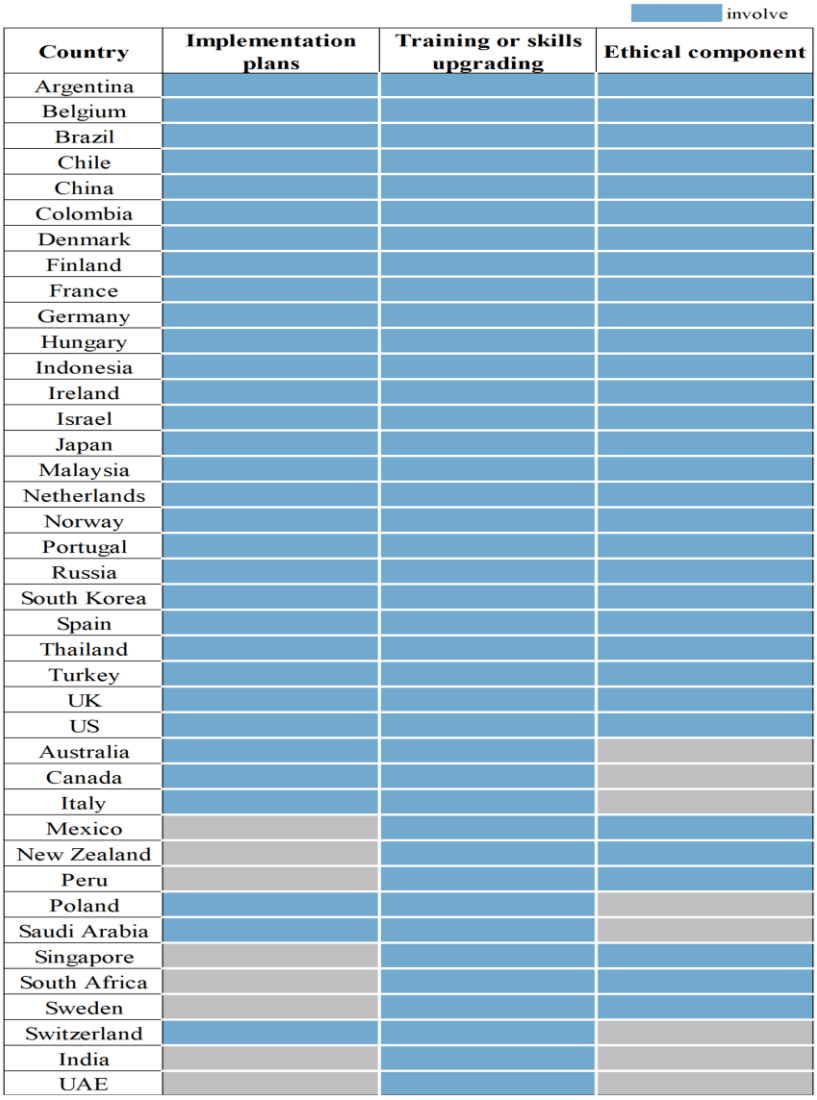


Figure 16 Structure of AI Strategy

The assessed 40 countries demonstrate relatively comprehensive AI strategies, all incorporating measures related to talent development or skills enhancement. Their emphasis varies regarding specific policy implementation plans and AI ethical governance frameworks.

Table 4 Figure 2 Overview of the Completeness of AI Strategies by Countries

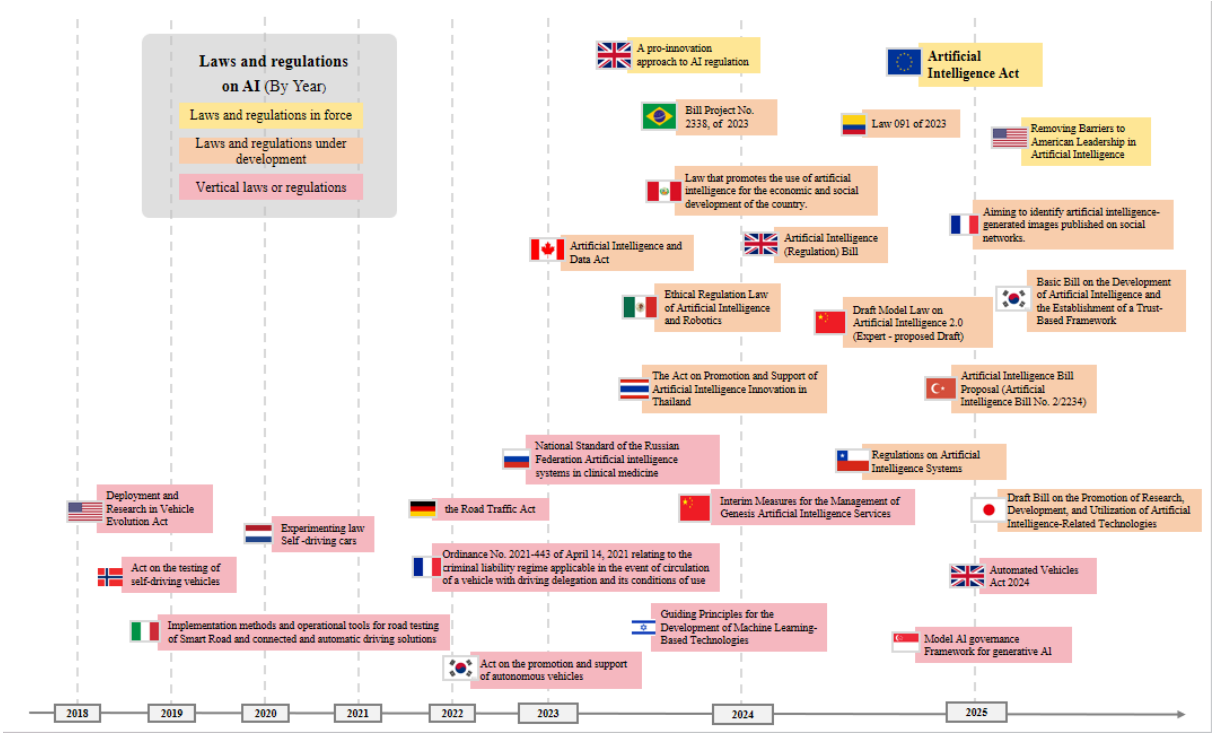


Observation 3.2: Since 2024, the legislation on AI has shown a clear accelerating trend. Some countries have enacted national general regulations on AI, while others have formulated special regulations for vertical fields of AI.

Among the 40 countries included in the assessment, the landscape of AI legislation is characterized by both broad-based progress and sector-specific advancements. A total of 27 countries have either

enacted or are in the process of formulating comprehensive national laws and regulations on AI. Among them, 14 countries in the European Union and Norway are all enforcing the *Artificial Intelligence Act*, the world's first comprehensive AI law, which came into effect on August 1st, 2024. South Korea passed the *Basic Act on Artificial Intelligence* on December 26th, 2024, with plans for implementation in January 2026. Additionally, more than ten countries, including China, France, Japan, Peru, and Turkey are currently drafting their own national AI laws.

Table 5 Laws and Regulations on AI (By Year)



While advancing comprehensive legislation, countries are actively integrating AI governance into existing legal frameworks through supplementary clauses or amendments. Currently, 23 out of the 40 countries have established data or information protection laws directly related to AI. 12 of the 40 countries have enacted national AI regulations focusing on specific sectors, primarily in three areas: generative artificial intelligence, healthcare, and autonomous driving. China and Singapore have introduced regulations related to generative AI, while Russia and Israel have focused on healthcare AI. Other countries have concentrated their legislation on autonomous driving.

From a legislative trend perspective, the legislation in the field of autonomous driving was initiated as early as 2017-2018 in the United States, Italy, and Norway. Since 2023, countries such as China

and Singapore have started to launch vertical legislation in the field of generative AI, which has become a new legislative focus. This reflects the trend that AI governance is moving towards professionalization and segmentation of specific domains.

Observation 3.3: All 40 countries have participated in various forms of global AI governance mechanisms, with the United Kingdom, France, Japan, and South Korea showing the highest levels of involvement.

This table below shows that 40 countries have participated in various global AI governance mechanisms to varying degrees, highlighting the importance of international cooperation in AI governance. Among them, the United Kingdom, France, Japan, and South Korea were the most active, participating in all global AI governance events covered by the AGILE Index.

Table 6 Overview of Global Governance Mechanisms Participation in AI by Countries

sign
country hign income country

	Global document					Cross-regional document			
Country	Recommendation on the Ethics of Artificial Intelligence 2021	Bletchley Declaration 2023	Seoul Ministerial Statement 2024	Global Digital Compact 2024	Statement on Inclusive and Sustainable AI for People and the Planet 2025	G20 AI Principles 2019	REAIM Call to Action 2023	REAIM Blueprint for Action 2024	Inaugural Convening of International Network of AI Safety Institutes 2024
France									
Japan									
S.Korea									
Canada									
Germany									
Singapore									
UK									
Australia									
Italy									
Netherlands									
US									
China									
Brazil									
Chile									
India									
Indonesia									
Mexico									
S.Arabia									
Spain									
Switzerland									
Türkiye									
Ireland									
N.Zealand									
UAE									
Argentina									
Belgium									
Colombia									
Denmark									
Finland									
Hungary									
Israel									
Norway									
Peru									
Poland									
Portugal									
S.Africa									
Sweden									
Thailand									
Malaysia									
Russia									

Among the 40 countries, all except the United States and Israel have signed UNESCO's *Recommendation on the Ethics of Artificial Intelligence*. *The Global Digital Compact* adopted at the United Nations Future Summit is the most widely supported AI governance document in this survey, with only Russia refusing to sign it. Outside of UN mechanisms, key global governance frameworks include the AI Safety Summit held in the United Kingdom, South Korea, and France, respectively; REAIM led by the Netherlands and South Korea; and the International Network of AISI led by the United States. These frameworks all prioritize AI safety as their core focus. The AI Safety Summit has relatively broad participation, with more than half of the 40 countries signing its documents, while REAIM and the International Network of AISI have narrower coverage. Overall, efforts to foster cooperation and dialogue on safety issues need to involve a more extensive range of countries.

Observation 3.4: Safety has become an important theme in the current governance of AI.

These frameworks analyzed above all focus on AI safety, with the AI Safety Summit having the broadest participation, with more than half of the 40 countries signing its documents, while REAIM and AISI have a more limited scope.

As a follow-up to the AI Safety Summit, the International Network of AI Safety Institutes (AI Safety Network) includes only 9 countries (excluding Kenya, which is not covered in this assessment). Not all countries with AISI have participated in the AI Safety Institute network meetings. Argentina established the Artificial Intelligence Unit for Security (UIAAS) in September 2024, and China set up the China AI Development and Safety Network (China AISI Network) in the same month. However, neither country attended the San Francisco conference. Overall, cooperation and dialogue on safety issues need to involve a broader range of countries.

3.4. Pillar 4: AI Governance Effectiveness

Observation 4.1 Economic development, as reflected by GDP per capita, is positively correlated with the digital inclusion of social vulnerable groups to a certain extent.

Across countries with varying GDP per capita levels, as shown below, there are observable trends in the internet access and usage of vulnerable groups (the 55 - 74 - year - old demographic and individuals from households in the lowest income quintile). Generally, as GDP per capita rises, the share of 55 - 74 - year - olds with internet access and the proportion of individuals in the lowest - income households who are internet users tend to show an upward pattern. This indicates that economic development, as reflected by GDP per capita, is positively correlated with the digital inclusion of these vulnerable groups to a certain extent. However, some developed countries such as the United States, Australia, and Israel have not achieved the expected results. This further illustrates that economic strength and technological advantages do not necessarily benefit vulnerable groups, and truly inclusive technology still requires long - term social policies and governance efforts.

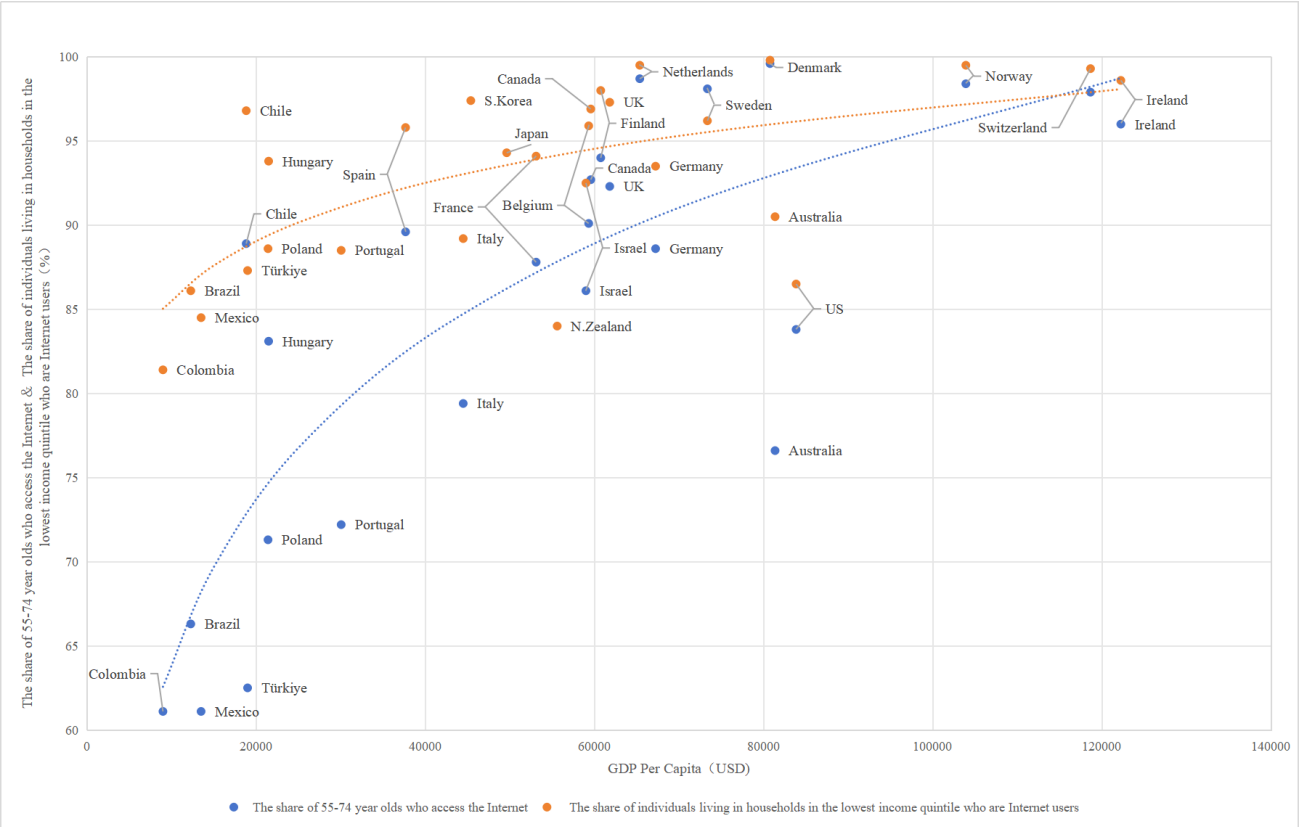


Figure 17:GDP Per Capita & Vulnerable Groups' Internet Usage and Access Situations

Source：OECD Going Digital Toolkit

Observation 4.2 Gender Ratio of AI Authors Continues to Reflect the Overall Male-Dominated Landscape in AI Research

In terms of gender equality among AI researchers, Thailand ranks highest, followed by China, Indonesia, and Singapore; countries like those in North America and Western Europe do not hold a distinct advantage. Some developed nations, such as Germany and Japan, exhibit significant gender imbalance among their AI researchers.

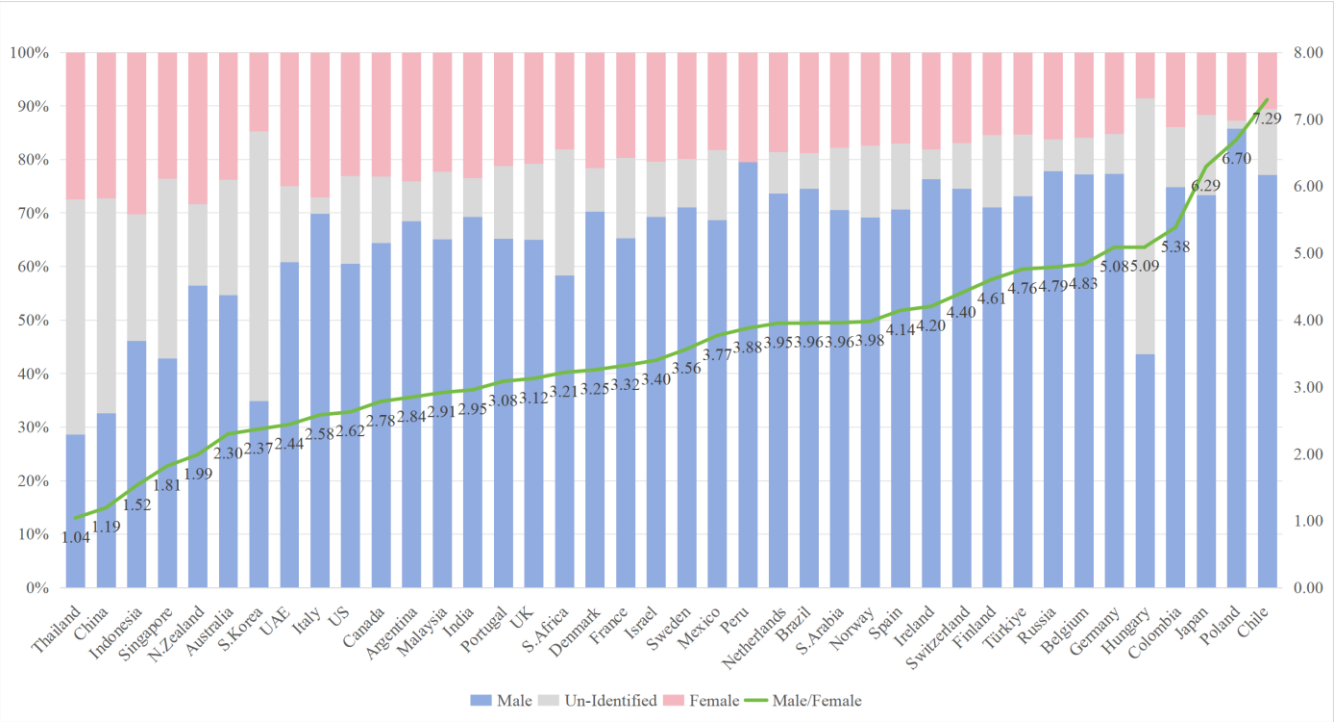


Figure 18:Gender Equality in AI Academic Publishing Across Countries (Inferred from Author Names)

Source：DBLP Statistics

Furthermore, countries with poor rankings in gender parity for both mobile and fixed internet usage, as shown below, generally also rank poorly in the gender ratio of AI literature authors, as seen in Turkey and Japan.

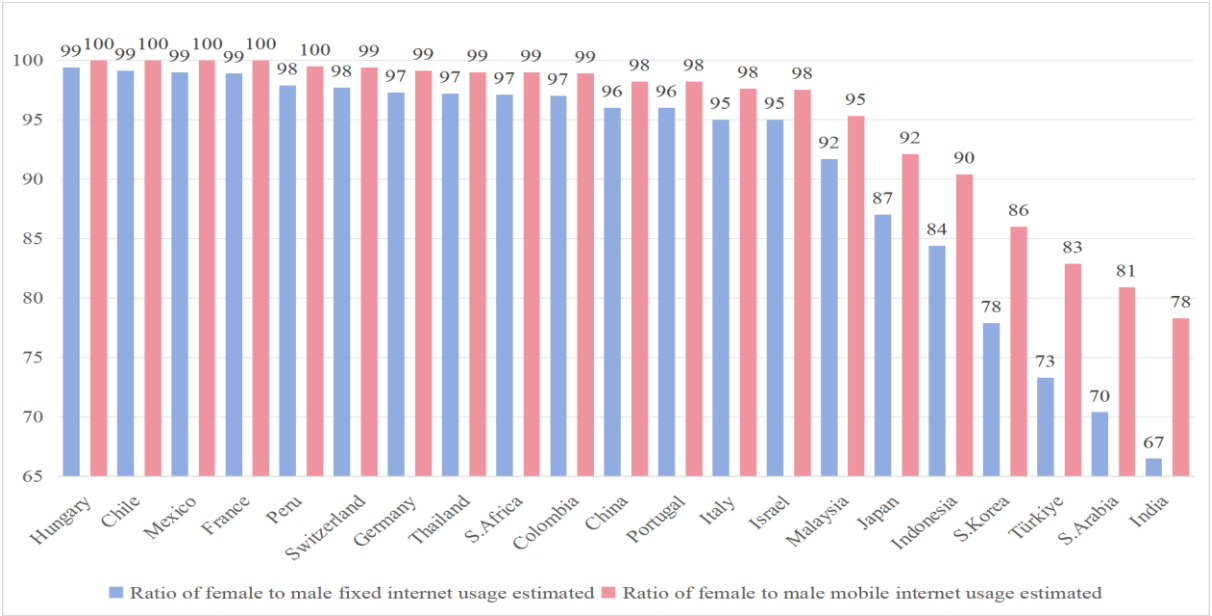


Figure 19:Gender Inequality in Access to Fixed and Mobile Internet Worldwide Gender Distribution in

AI-Related Publications

Source：Oxford Digital Gender Gaps

Note：This figure excludes countries that achieved full gender parity (100%) in both fixed and mobile internet access, based on the evaluated indicators.

Observation 4.3 As Incomes Increase, Public Awareness of AI Applications Declines; Per Capita GDP Shows Negative Correlation with Recognition of AI Integration

The relationship between GDP per capita and public awareness of AI applications within products and services reveals a consistent pattern: Higher income levels correlate with declining awareness of AI's technical features and social implications. Developing economies—notably China, Turkey, Indonesia, Mexico, and Malaysia demonstrate above-average awareness levels relative to peers. Among high-income countries, Asian economies such as South Korea and Singapore exhibit stronger awareness than the general trend observed in developed nations.

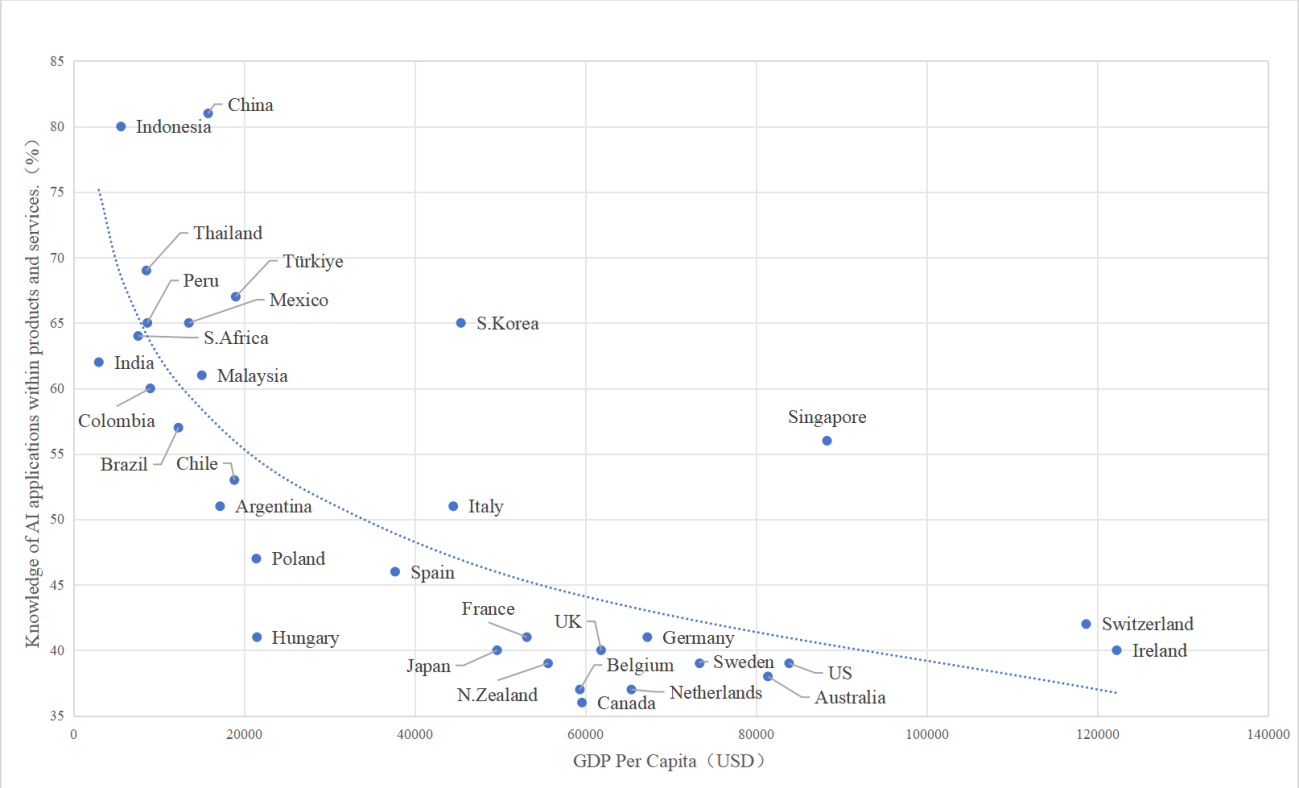


Figure 20: GDP Per Capita &Awareness of AI applications within products and services.

Source：THE IPSOSAI MONITOR 2024 A 32-countrylpsosGlobal Advisor Survey

Observation 4.4 Developing Economies Exhibit Higher Trust and More Optimistic Attitudes Toward AI Integration in Products and Services

Public trust in AI and future-oriented optimism are markedly higher in emerging economies such as China, Indonesia, Thailand, and Mexico. Conversely, the public in countries like Sweden, the United States, France, Belgium, and Canada adopt more cautious stances toward AI. While AI is broadly viewed favorably across nations for enhancing innovation and efficiency—particularly in personal entertainment choices, time spent on tasks, personal health and work—a cautious outlook prevails regarding its ethical application and real-world risks, especially in domains such as public trust, job markets, and online disinformation control.

Table 7 Public Attitudes and Expectations Toward AI (Percentage of Agreement)

Country \ Perspective	Public Trust in AI	AI Products and Services Excite People	Benefits of Using AI Outweigh the Risks	Trust in AI Without Bias or Discrimination	AI Will Positively Impact Future Life	The public believes that in the next 3-5 years, the application of AI will maintain or improve individuals in the following aspects.						
						Personal entertainment choices	Time spent on tasks	Personal health	Personal work	Economic condition	Online misinformation	Job market
China	66	80	83	76	86	92	92	89	89	87	70	63
Indonesia	66	76	80	68	80	89	93	90	87	84	73	69
Thailand	68	76	77	73	78	90	89	88	85	82	73	72
Mexico	64	70	70	76	76	87	90	84	83	81	69	68
Peru	62	67	70	74	76	88	90	86	81	78	73	69
Colombia	50	63	68	66	77	88	88	80	76	72	65	62
S.Africa	62	61	62	72	76	80	86	79	76	69	63	58
Malaysia	52	68	63	62	71	82	82	83	79	72	61	68
Singapore	56	64	66	60	79	85	85	78	70	77	54	59
Türkiye	46	70	69	61	76	78	81	73	77	64	58	63
S.Korea	37	73	66	51	79	83	87	80	74	70	61	49
Argentina	46	52	57	60	67	85	84	79	78	70	66	65
India	60	63	62	63	65	68	70	69	66	68	64	64
Chile	43	46	60	59	69	82	86	79	72	58	65	58
Brazil	45	56	56	56	62	78	81	76	76	67	57	58
Italy	58	49	53	61	60	76	78	76	74	62	51	53
Hungary	64	47	51	64	64	71	75	75	67	64	41	45
Spain	48	45	50	52	59	79	81	76	73	61	51	49
Germany	43	46	47	48	59	77	79	73	73	62	46	53
Netherlands	44	40	36	38	63	76	81	81	81	65	44	56
Switzerland	43	42	42	43	55	78	78	78	80	64	46	52
N.Zealand	39	43	48	43	64	76	80	77	78	61	37	42
Poland	45	44	44	53	56	74	76	71	70	67	43	42
Japan	27	47	48	38	63	75	77	76	70	63	47	49
Ireland	42	40	45	42	59	76	74	72	76	63	44	47
UK	41	38	46	44	58	73	79	75	74	59	41	45
Australia	32	39	44	42	61	74	68	73	71	55	39	42
Sweden	35	36	43	33	52	69	77	72	79	59	34	45
US	33	34	39	41	58	67	75	73	73	51	39	44
France	35	39	41	41	57	69	75	67	68	51	38	45
Belgium	40	33	38	37	61	69	74	70	73	53	39	39
Canada	28	37	40	41	61	73	75	68	73	50	37	40

Source：THE IPSOSAI MONITOR 2024 A 32-countrylpsosGlobal Advisor Survey

Observation 4.5 The actual participation and technical contribution capacity of countries in the global open-source AI technology ecosystem are related to the level of economic development, but are also influenced by the reserve of programming talents, the basic education system, and the long-term accumulation of the technical community.

From the perspective of the activity of contributors to popular AI projects on GitHub, The United States, with a significant lead of 202,118 (30.43%) contributors, demonstrates its comprehensive advantages in terms of technological investment, developer ecosystem, and educational system. Several Western European developed countries are also among the top in terms of activity, such as Germany (82,912; 12.48%), the Netherlands (73,558; 11.07%), and Norway (58,525; 8.81%). Economic level is not the only determining factor. China (62,789；9.45%) and India (14,815; 2.23%), as developing countries, rank 4th and 8th respectively, indicating that their accumulation in programming talent scale, education popularization, and technical community activity has formed a competitive edge. In contrast, some high-income countries with weak development foundations have lower activity levels. For example, New Zealand (745; 0.11%), the United Arab Emirates (1,837; 0.28%), and Saudi Arabia (21; 0.03‰) illustrate that economic strength alone is not sufficient to directly translate into technical contribution capacity.

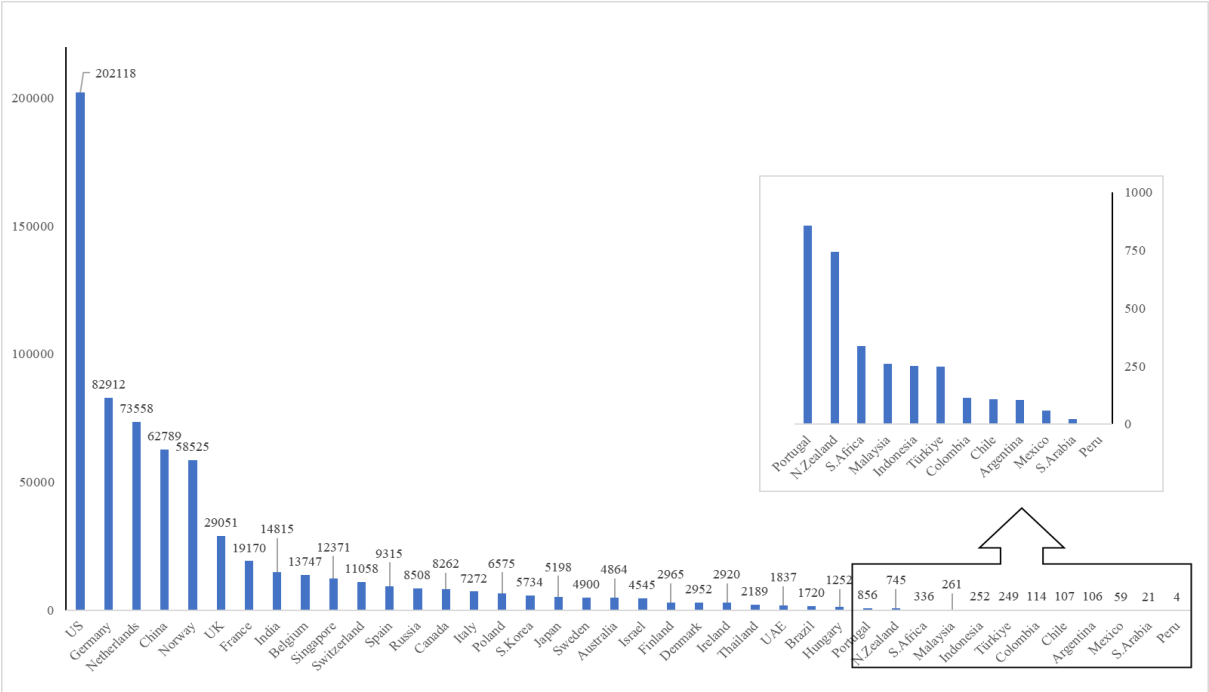


Figure 21:Contributor Activity in Popular AI Projects on GitHub by Country

Source：GitHub Statistics

Observation 4.6 In terms of the openness of AI data and algorithms, China and the United States hold an absolute global leading position. In influential open AI models, the two countries account for over 70% of the global total, and the same is true for influential datasets.

Based on data from the Hugging Face open-source community, China has 2,014 influential AI models (50.3%), ranking first globally, while the United States ranks second with 995 models (24.8%). In terms of AI datasets, the United States leads with 922 influential models, followed closely by China with 912 models. This data indicates that China and the United States dominate the AI open ecosystem, not only in terms of quantity but also in playing a significant role in the development of global AI research and applications. Although North America and Europe still hold advantageous positions, with Canada, the United Kingdom, France, Germany, and Switzerland all ranking in the top ten for AI models and datasets, India has shown excellent performance in AI data openness, becoming the only developing country other than China to enter the top ten. Brazil, Chile,

and Indonesia have also gained more attention for the Global South in the field of artificial intelligence through their practices in AI-related scientific research and applications.

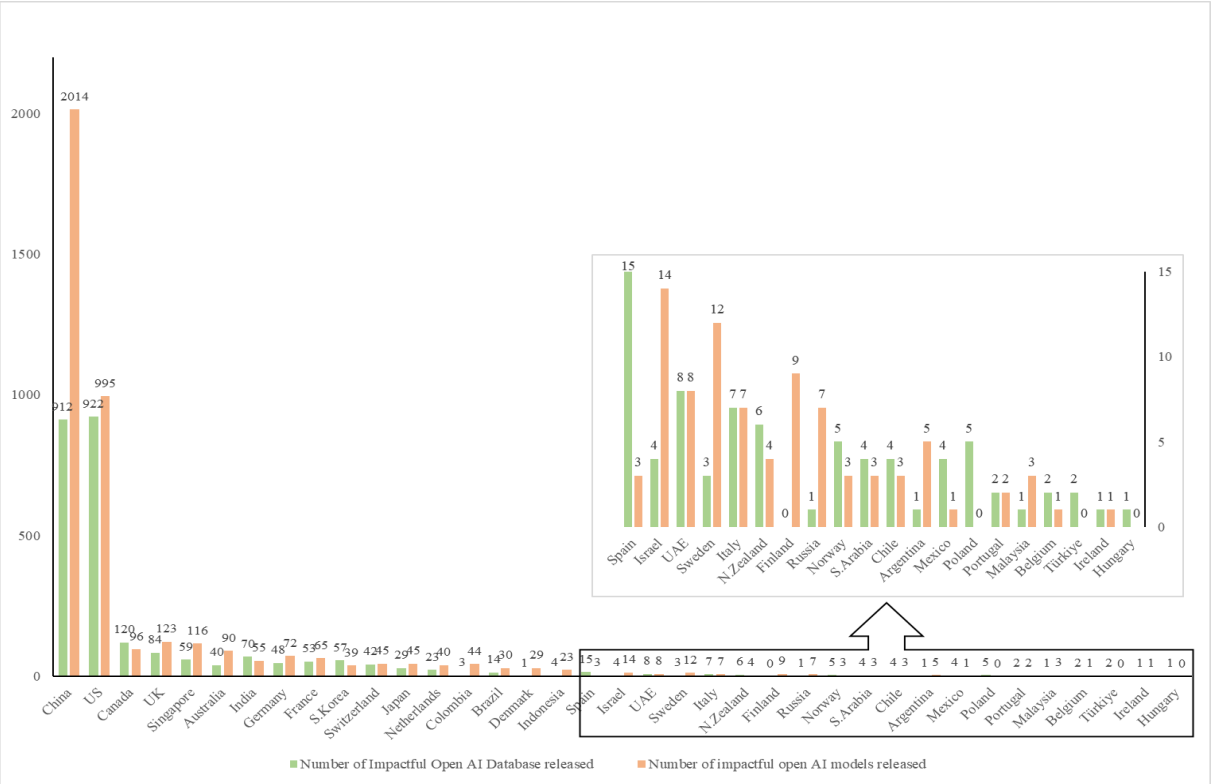


Figure 22:Number of Impactful Open AI Database & models released

Source：Hugging Face Open-Source Community

Observation 4.7: Among the 40 countries evaluated, the total volume of publications related to AI governance accounts for approximately 20.4% of all AI - related publications. Among them, the combined proportion of AI governance - related publications contributed by China and the United States is 54%, exceeding half.

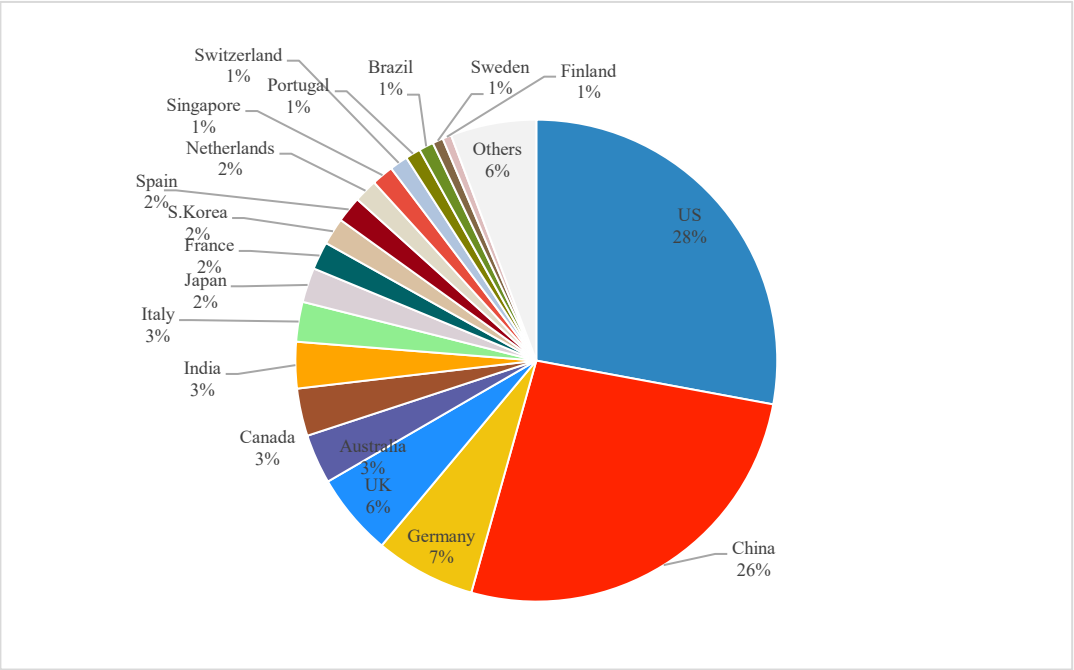


Figure 23 AI governance-related publications

Data source: Based on statistical analysis of the DBLP Computer Science Bibliography literature database (Data as of March, 2025)

Based on the data statistics from the DBLP literature database, the total number of publications related to AI governance from 40 countries accounts for approximately 20.4% of all AI - related publications. The number of AI governance publications in these 40 countries is mainly contributed by the United States and China, accounting for 28% and 26% respectively. Germany, the United Kingdom, and Australia have also made important contributions. Compared with last year, Germany has moved from the fourth - ranking country in terms of proportion to the third, surpassing the United Kingdom.

Observation 4.8: Most of the collaborations in governance literature occur between the United States and China, between China and Australia, between China and the United Kingdom, and between the United States and the United Kingdom. The co - authoring of papers in AI governance among different countries reflects that AI governance, as a global - scale issue, impels countries from diverse regions to join hands, and mirrors the tendency of the global scientific research community to tackle common challenges.

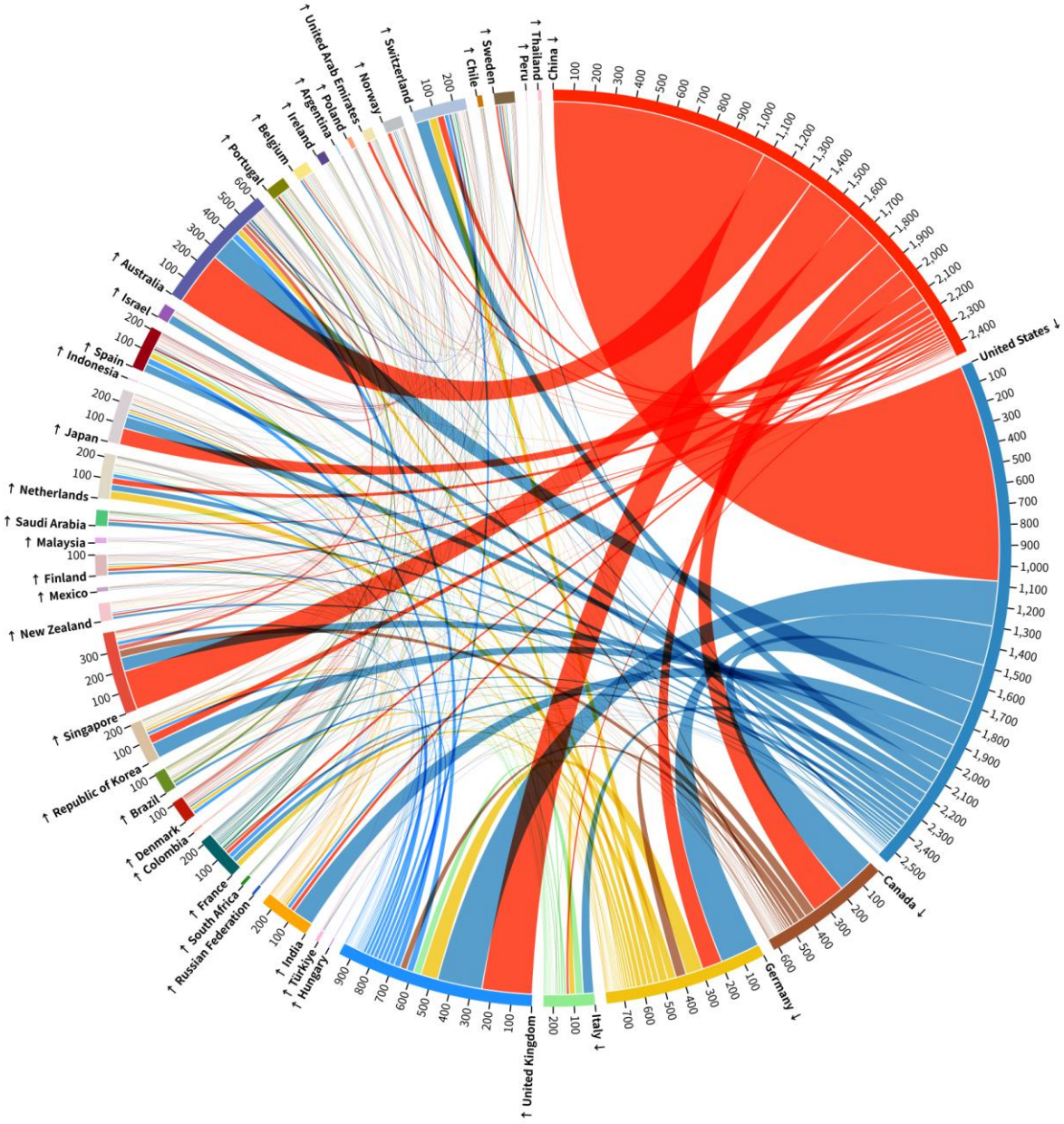


Figure 24 Relative Number of Collaborations in AI Governance Literature by Country

Data source: Based on statistical analysis of the DBLP Computer Science Bibliography literature database (Data as of March, 2025)

Analysis of collaborations in AI governance-related papers reveals a clear pattern of significant international cooperation. The United States, China, the United Kingdom, Germany, and Canada lead in this collaboration, contributing to more than half of the total co-authored papers among the 40 countries surveyed. This widespread cooperation highlights the global interconnectedness of AI governance.

Observation 4.9: The United States and China lead in advancing AI for sustainable development goals, contributing more than half of the total efforts, while other countries have also made significant contributions, collectively driving the global "AI for Good" movement.

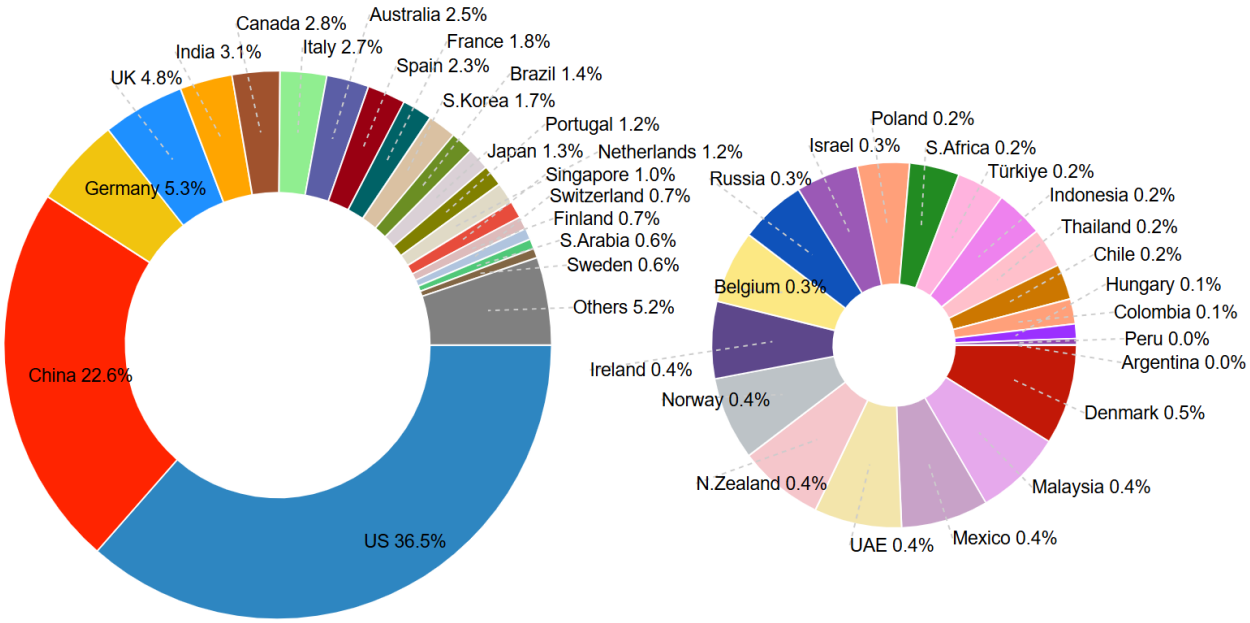


Figure 25 The distribution of AI for SDGs Publications

Data source: Based on statistical analysis of the DBLP Computer Science Bibliography literature database (Data as of March, 2025)

The 40 countries have made varying contributions to advancing AI for the achievement of sustainable development goals, showcasing their individual efforts in AI for Good. Overall, the United States and China dominate in terms of the number of papers, while Germany and the United Kingdom have also played significant roles in this area.

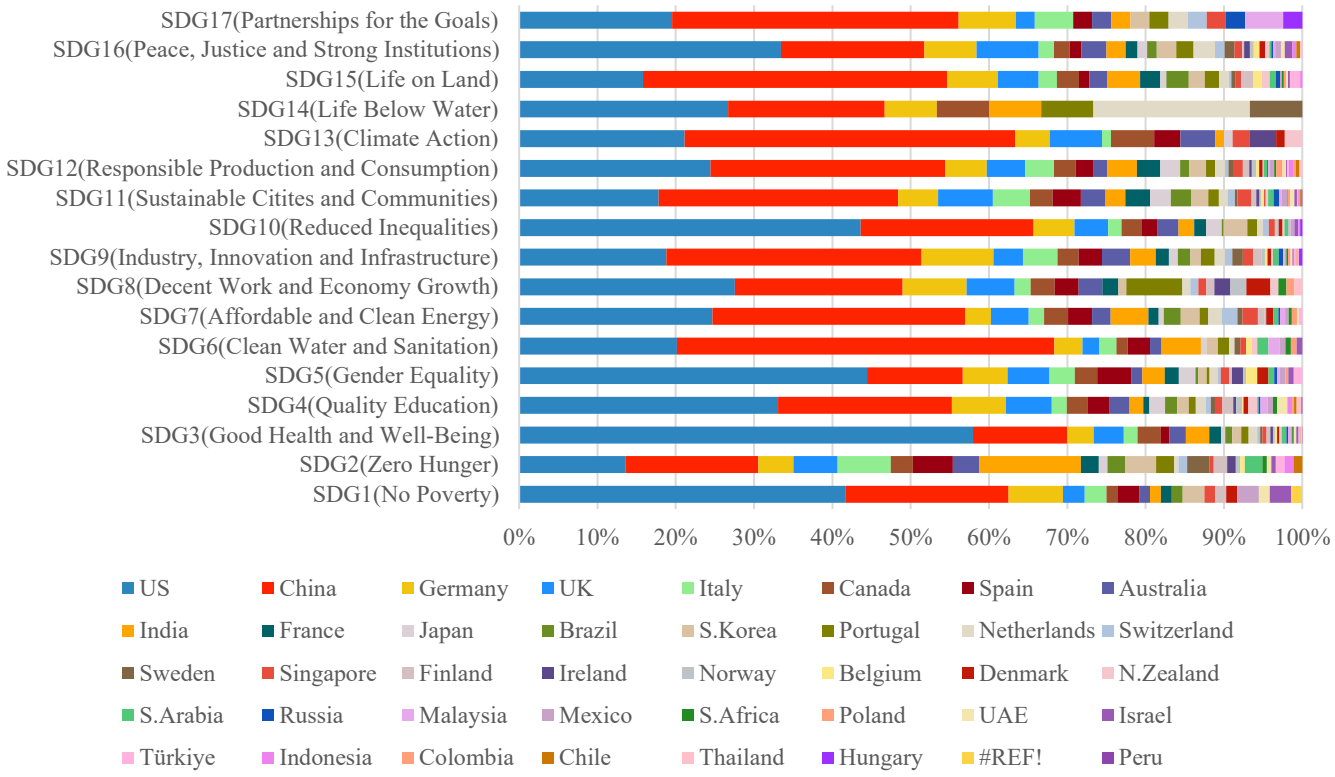


Figure 26 The distribition of countries in each SDG

Data source: Based on statistical analysis of the DBLP Computer Science Bibliography literature database (Data as of March, 2025)

Observation 4.10: In the specific research on AI and sustainable development goals, SDG 3 (Good Health and Well-Being), SDG11 (Sustainable Cities and Communities), SDG9 (Industry, Innovation and Infrastructure) has received widespread attention, with non high-income countries significantly outpacing high-income countries in the number of studies on SDG 3.

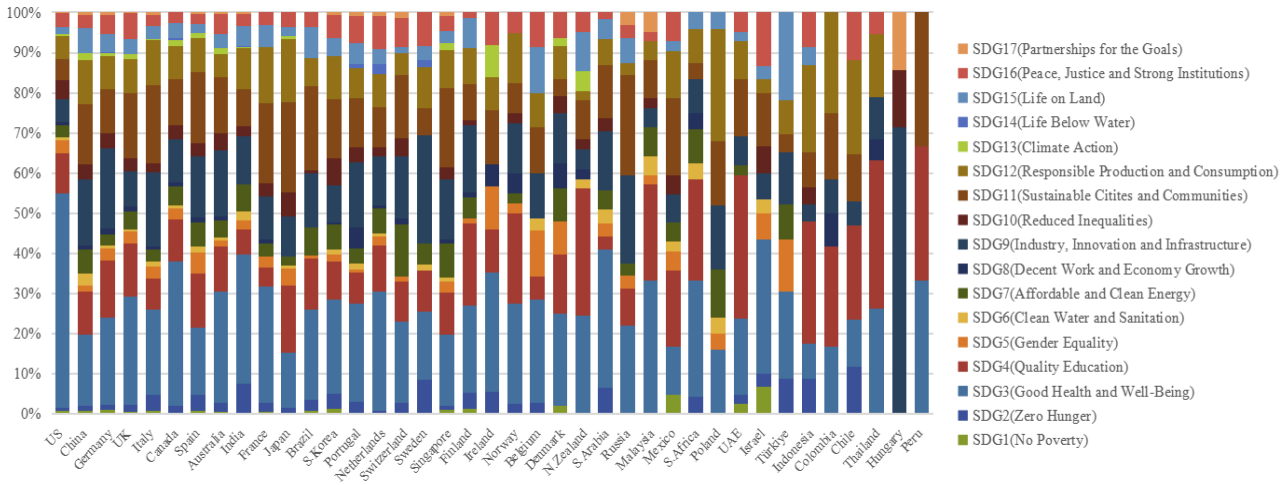


Figure 27 The distribution of SDGs in each country

Data source: Based on statistical analysis of the DBLP Computer Science Bibliography literature database (Data as of March, 2025)

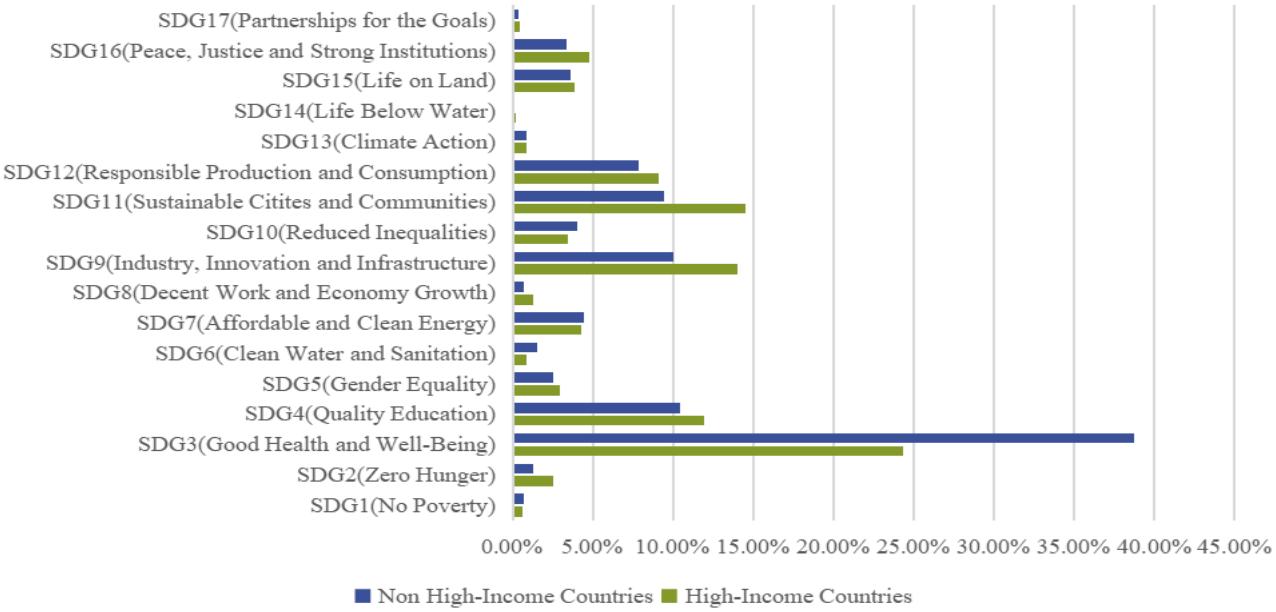
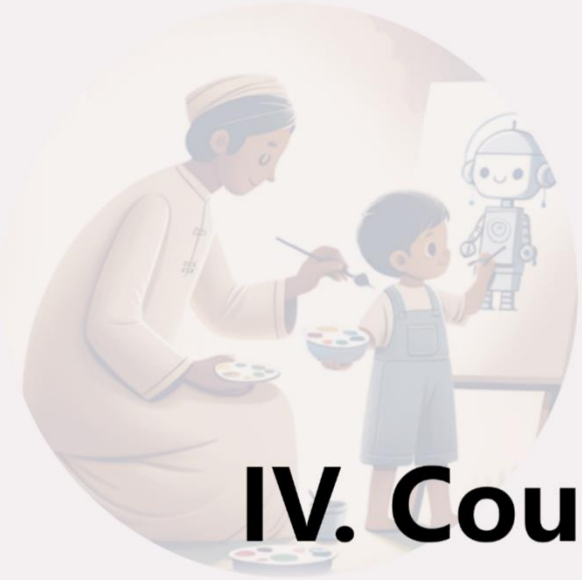


Figure 28 Comparison of AI-for-SDGs paper topics between high-income and non high-income countries

Data source: Based on statistical analysis of the DBLP Computer Science Bibliography literature database (Data as of March, 2025)

All 40 countries show a relevant consistent focus in the literature on AI's role in advancing sustainable development goals. Among these, SDG 3 (Good Health and Well-Being) is the most popular, followed by SDG 11 (Sustainable Cities and Communities), SDG 9 (Industry, Innovation, and Infrastructure), SDG 4 (Quality Education), and SDG 12 (Responsible Consumption and

Production). Additionally, non high-income countries have notably more research on SDG 3 compared to high-income countries.



IV. Country Profile

V. Appendix

1. Dimension Details and Data Sources

***Table 8** AGILE Index Dimensions and Indicators (in detail)*

Pillars	Dimensions	Content of Evaluation	Referencing Articles from UNESCO's AI Rec. and RAM[2]	Indicators
P1. AI Development Level	D1. AI Research and Development Activity	Assessment of countries' level of activity in AI-related R&D	AI Rec. A83, RAM4.2.1	D1.1. Number of **publications in AI**-related journals/conferences & the per capita ratio
				D1.2. Number of **professionals** in the field of AI & the per capita ratio
				D1.3. Number of granted **AI patents** & the per capita ratio
				D1.4. Number of **AI systems** developed & the GDP ratio
	D2. AI Infrastructure	Assessment of the level of deployment and access to AI technologies and digital ecosystem infrastructure in each country	AI Rec. A59, A80, RAM6.2.1, 6.2.3	D2.1. Number of colocation **data centers** & the per capita ratio
				D2.2. Non-distributed **supercomputers** floating point operations per second & the per capita ratio
				D2.3. **Internet infrastructure** level
	D3. AI Industry Vitality	Assessment of the level of activity in AI-related industries in each country	AI Rec. A117, RAM5.2.3	D3.1. **Private investment** in AI & the GDP ratio
				D3.2. Number of newly funded AI companies & the GDP ratio
P2. Governance Environment	D4. AI Risk Exposure	Assessment of the level of exposure to AI-related ethical and safety risks in each country	AI Rec. A50	D4.1. Number of **AI-related risk cases/incidents** & the GDP ratio
	D5. AI Governance	Assessment of countries'	AI Rec. A54, RAM2.2.2,	D5.1. Overall assessment of the **level of governance** in the country

[2] The references in this column indicate the supporting articles from the 'IV. Areas of policy action' section of UNESCO's *Recommendation on the Ethics of Artificial Intelligence* (hereafter referred to as the AI Rec.)as well as the UNESCO's *Readiness Assessment Methodology* (hereafter referred to as the RAM) that closely correspond to the evaluation content of the specific AGILE Index Dimension.

	Readiness	preparedness and implementation capabilities in AI governance	RAM2.2.8	D5.2. Overall level of **digital development** in the country
				D5.3. Overall process of achieving **sustainable development goals** in the country
P3. Governance Instruments	D6. AI Strategy & Planning	Assessment of the development of AI strategy/planning/ roadmap in each country	AI Rec. A56, A71, RAM 2.2.1	D6.1. Whether an **AI strategy** has been released in the country
				D6.2. Whether the AI strategy has **implementation plans**
				D6.3. Whether the AI strategy mentions **training or skills upgrading**
				D6.4. Whether the AI strategy has an **ethical component**
	D7. AI Governance Bodies	Assessment of the establishment of AI governance institutions or bodies in each country	AI Rec. A58, RAM1.4	D7.1. Whether **AI governance bodies** have been established or designated in the country
	D8. AI Principles & Norms	Assessment of the development of AI governance principles and norms in each country	AI Rec. A48	D8.1. Whether governments have issued national-level **AI principles or norms**
	D9. AI Impact Assessment	Assessment of the development of AI impact assessment tools/frameworks in each country	AI Rec. A50	D9.1. Whether governments have introduced **AI impact assessment mechanisms**
	D10. AI Standards & Certification	Assessment of the establishment of AI standards/certification mechanisms in each country	AI Rec. A64	D10.1. Whether governments have developed national-level **standards and certification mechanisms** for AI
	D11. AI Legislation Status	Assessment of the enactment status of AI laws and related regulations in each country	AI Rec. A133, RAM2.2.2	D11.1. Whether countries have enacted or are in the process of enacting **comprehensive national laws or regulations** specifically targeting AI
				D11.2. Whether countries have established national-level **vertical laws or regulations** specifically addressing AI
				D11.3. Whether countries have implemented national-level **data/information protection** laws pertaining AI
	D12. Global AI Governance Engagement	Assessment of the degree of countries' participation in international AI governance	AI Rec. A80, RAM6.2.2	D12.1. The participation level in **international AI governance mechanisms**
				D12.2. The participation level in **ISO AI standardization**
P4. Governance Effectiveness	D13. Public Understanding of AI	Assessment of the public's AI competence and AI risk awareness in each country	AI Rec. A101, RAM4.2.1, 4.2.2	D13.1. The **AI-related skill proficiencies** of the public
				D13.2. The level of the **public's discussion** of AI
				D13.3. The level of the public's **awareness of AI's impact**

	D14. AI Social Acceptance	Assessment of the degree of public acceptance in AI technologies and applications in each country	AI Rec. A39, RAM3.2.2 & 3.3.4	D14.1. The level of the public's **overall recognition** towards AI's development
				D14.2. The level of the Public's **stable expectations** on AI's impact on daily life
				D14.3. The level of Public's **trust in AI applications**
				D14.4. The level of **enterprises' positive attitudes** towards AI's adoption
	D15. AI Development Inclusivity	Assessment of the inclusiveness of AI R&D and applications in each country	AI Rec. A91, A105, RAM3.2.1	D15.1. Gender ratio of **AI literature authors**
				D15.2. Internet gender equality
				D15.3. Share of young female who can program
				D15.4. Share of the aged using the internet
				D15.5. Share of the low-income internet users
	D16. Data & Algorithm Openness	Assessment of the level of open source and openness of AI data and algorithms in each country	AI Rec. A75, A76	D16.1. Number of impactful **open AI models and datasets** released
				D16.2. The level of contributions in the **AI developer community**
	D17. AI Governance Research Activity	Assessment of countries' activity of research in AI governance	AI Rec. A131, RAM3.2.3, RAM4.2.1	D17.1. Total number & the proportion of **literature on AI governance** topics
				D17.2. Total number & the proportion of **literature on AI safety** topics
				D17.3. Total number & the proportion of **literature on AI for SDGs** topics

a) P1. AI Development Level

D1. AI Research and Development Activity

AI Research and Development Activity refers to the level of activity in artificial intelligence related research and development in various countries. According to UNESCO's *Recommendation on the Ethics of Artificial Intelligence*, Article 83, "Member States should encourage international cooperation and collaboration in the field of AI to bridge geo-technological lines." This recommendation aligns with Dimension 1, which involves assessing the level of AI development to facilitate comparative analysis of technological gaps among different countries and regions.

The Dimension 1 currently covers four indicators:

- **D1.1. Number of publications in AI-related journals/conferences & the per capita ratio**
  - Data Source: Based on statistical analysis of the DBLP Computer Science Bibliography literature database (Data from April 2024 to March 2025)
- **D1.2. Number of professionals in the field of AI & the per capita ratio**
  - Data Source: Based on statistical analysis of the DBLP Computer Science Bibliography literature database (Data from April 2024 to March 2025)
- **D1.3. Number of granted AI patents & the per capita ratio**

- Data Source: The World Intellectual Property Organization (WIPO, number of AI related patents[3],Data from April 2024 to March 2025;Patent Landscape Report-Generative Artificial Intelligence 2024).

- **D1.4. Number of AI systems developed & the GDP ratio**
  - Data Source: Our world data (Cumulative number of large-scale AI systems by country as of March 2025)[4]

D2. AI Infrastructure

AI Infrastructure refers to the foundational technology and digital ecosystem for artificial intelligence. According to UNESCO's *Recommendation on the Ethics of Artificial Intelligence*, Article 59, "Member States should foster the development of, and access to, a digital ecosystem for ethical and inclusive development of AI systems at the national level...Such an ecosystem includes, in particular, digital technologies and infrastructure..." and Article 80, "Member States should work through international organizations to provide platforms for international cooperation on AI for development, including... infrastructure, and facilitating multi-stakeholder collaboration...". These recommendations align with Dimension 2.

The Dimension 2 currently covers three indicators:

- **D2.1. Number of colocation data centers & the per capita ratio**
  - Data Source: The number of data centers in the Data Center Map database[5] (Data as of March 2025)
- **D2.2. Non-distributed supercomputers floating point operations per second & the per capita ratio**
  - Data Source: The TOP500 List of Supercomputer [6](Data as of March 2025, Rpeak, Rmax)
- **D2.3. ICT infrastructure level**
  - Data Source: International Telegraph Union (ITU) (*ICT development index 2024*)

D3. AI Industry Vitality

The AI Industry Vitality refers to the activity of a country in artificial intelligence related industries. According to UNESCO's *Recommendation on the Ethics of Artificial Intelligence*, Article 117, "Member States should support collaboration agreements among governments, academic institutions, vocational education and training institutions, industry, workers' organizations and civil society to bridge the gap of skillset requirements to align training programmes and strategies with the implications of the future of work and the needs of industry, including small and medium enterprises," this recommendation is consistent with Dimension 3.

The D3 dimension currently covers two indicators:

- **D3.1. Private investment in AI & the GDP ratio**
  - Data Source: *Artificial Intelligence Index Report 2025*—Stanford University &QUID[7] (Private

[3] https://www.wipo.int/portal/en/index.html

[4] https://ourworldindata.org/grapher/cumulative-number-of-large-scale-ai-systems-by-country.

[5] https://www.datacentermap.com/datacenters/

[6] https://www.top500.org/lists/top500/list/2024/11/

investment in AI by geographic area, 2024)

- **D3.2. Number of Newly funded AI companies & the GDP ratio**
  - Data Source: *Artificial Intelligence Index Report 2025*—Stanford University &QUID (Number of newly funded AI companies by geographic area, 2024)

b) P2. AI Governance Environment

D4. AI Risk Exposure

AI Risk Exposure refers to the degree of exposure to ethical and safety risks and issues related to AI in various countries. The more issues there are, the higher the urgency for AI governance in that country. Therefore, this dimension has a negative impact on the background. According to UNESCO's *Recommendation on the Ethics of Artificial Intelligence*, Article 50, "Member States should introduce frameworks for impact assessments, such as ethical impact assessment, to identify and assess benefits, concerns and risks of AI systems, as well as appropriate risk prevention, mitigation and monitoring measures, among other assurance mechanisms," this recommendation is consistent with Dimension 4.

Dimension 4 currently has one indicator:

- **D4.1. Number of AI-related risk cases/incidents & the GDP ratio**
  - Data Source: The AI incidents data are from multiple sources including the OECD AI Incidents Monitor (AIM)[8], the AI Incident Database (AIID)[9], the AI, Algorithmic, and Automation Incidents and Controversies Repository (AIAAIC)[10], and the AI Governance Observatory from AI Governance Online (AIGO)[11]. (Data as of March 2025)

D5. AI Governance Readiness

AI Governance Readiness refers to the favourable conditions in a country for governing AI and utilizing AI to achieve the United Nations Sustainable Development Goals. According to UNESCO's *Recommendation on the Ethics of Artificial Intelligence*, Article 54, "Member States should ensure that AI governance mechanisms are inclusive, transparent, multidisciplinary, multilateral (this includes the possibility of mitigation and redress of harm across borders) and multi-stakeholder. In particular, governance should include aspects of anticipation, and effective protection, monitoring of impact, enforcement and redress", this recommendation aligns with Dimension 5.

Currently, there are three indicators under Dimension 5:

- **D5.1. Overall assessment of the level of governance in the country**

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[7] https://40006059.fs1.hubspotusercontent-na1.net/hubfs/40006059/Stanford_HAI_2024_AI-Index-Report.pdf

[8] https://oecd.ai/en/incidents

[9] https://incidentdatabase.ai/

[10] https://www.aiaaic.org/aiaaic-repository

[11] https://www.ai-governance.online/ai-governance-observatory

- Data Source: World Bank Group (Worldwide Governance Indicators[12]), the United Nations Development Programme (Human Development Index[13])

- **D5.2. Overall level of digital development in the country**
  - Data Source: ITU (Global Cybersecurity Index[14]); Global Data Barometer (Effective Governance of Data[15]);World Bank (GovTech Maturity Index[16]); UN E-Government Knowledgebase (E-Government Development Index; E-Participation Index[17]).
- **D5.3. Overall process of achieving sustainable development goals in the country**
  - Data Source: *2025 Sustainable Development Index*[18].

c) P3. AI Governance Instruments

D6. AI Strategy & Planning

AI Strategy & Planning refers to the overall plans formulated by governments of various countries for the development and application of artificial intelligence. In Article 56 of UNESCO's *Recommendation on the Ethics of Artificial Intelligence*, it is stated: "Member States are encouraged to develop national and regional AI strategies..."; and in Article 71: "Member States should work to develop data governance strategies...". This recommendation is aligned with the direction assessed in Dimension 7, which evaluates whether AI-related strategies have been established.

Dimension 6 currently covers five indicators:

- **D6.1. Whether an AI strategy has been released in the country**
  - Data Source: Survey with Local Expert Data Assistance. (Data as of March 2025)
- **D6.2. Whether the AI strategy has implementation plans**
  - Data Source: Survey with Local Expert Data Assistance. (Data as of March 2025)
- **D6.3. Whether the AI strategy mentions training or skills upgrading**
  - Data Source: Survey with Local Expert Data Assistance. (Data as of March 2025)
- **D6.4. Whether the AI strategy has an ethical component**
  - Data Source: Survey with Local Expert Data Assistance. (Data as of March 2025)

D7. AI Governance Bodies

AI Governance Bodies refer to specialized agencies established by governments of various countries to

12 https://www.worldbank.org/en/publication/worldwide-governance-indicators/interactive-data-access

13 https://hdr.undp.org/data-center/human-development-index#/indicies/HDI

14 https://www.itu.int/en/ITU-D/Cybersecurity/Pages/Global-Cybersecurity-Index.aspx

15 https://globaldatabarometer.org/module/governance/

16 https://www.worldbank.org/en/programs/govtech/gtmi

17 https://publicadministration.un.org/egovkb/Data-Center

18 https://unstats.un.org/sdgs/report/2024/

oversee AI governance affairs. According to UNESCO's *Recommendation on the Ethics of Artificial Intelligence*, Article 58, countries should ".....consider adding the role of an independent AI Ethics Officer or some other mechanism to oversee ethical impact assessment, auditing and continuous monitoring efforts and ensure ethical guidance of AI systems". This recommendation aligns with the direction assessed in Dimension 7, which evaluates whether specialized agencies responsible for AI governance have been established.

Dimension 7 currently covers one indicator:

- **D7.1. Whether AI governance bodies have been established or designated in the country**
  - Data Source: Survey with Local Expert Data Assistance. (Data as of March 2025)

D8. AI Principles & Norms

AI Principles & Norms refer to the principles and norms established by governments of various countries to guide the development, application, and governance of artificial intelligence. According to UNESCO's *Recommendation on the Ethics of Artificial Intelligence*, it is underlined that ".....ensure that national AI strategies are guided by ethical principles", and in Article 48, "The main action is for Member States to put in place effective measures, including, for example, policy frameworks or mechanisms." This recommendation aligns with Dimension 8, which evaluates whether principles and norms for guiding AI have been established.

Dimension 8 currently covers one indicator:

- **D8.1. Whether governments have issued national-level AI principles or norms**
  - Data Source: Survey with Local Expert Data Assistance. (Data as of March 2025)

D9. AI Impact Assessment

AI Impact Assessment refers to the evaluation of the potential impacts of artificial intelligence systems, including their effects on individuals, society, and the environment. According to UNESCO's *Recommendation on the Ethics of Artificial Intelligence*, Article 50, countries should "introduce frameworks for impact assessments, such as ethical impact assessment, to identify and assess benefits, concerns and risks of AI systems." This recommendation aligns with Dimension 9, which assesses whether tools/frameworks for assessing the impact of artificial intelligence have been developed.

Dimension 9 currently covers two indicators:

- **D9.1. Whether governments have introduced AI impact assessment mechanisms**
  - Data Source: Survey with Local Expert Data Assistance. (Data as of March 2025)

D10. AI Standards & Certification

AI Standards & Certification refer to mechanisms for assessing artificial intelligence systems to ensure compliance with relevant ethical and safety standards and to issue certification marks for compliance. According to UNESCO's *Recommendation on the Ethics of Artificial Intelligence*, Article 64, "Member States, international organizations and other relevant bodies should develop international standards that describe measurable, testable levels of safety and transparency, so that systems can be objectively assessed, and levels of compliance determined." This

recommendation aligns with Dimension 10, which assesses whether mechanisms for assessing AI systems against standards have been developed.

Dimension 10 currently covers one indicator:

- **D10.1. Whether governments have developed national-level standards and certification mechanisms for AI**
  - Data Source: Survey with Local Expert Data Assistance. (Data as of March 2025)

D11. AI Legislation Status

AI legislation refers to national-level documents with binding legal force that countries establish for the development and governance of artificial intelligence. In the legislative dimension, AGILE focuses on three key areas: general national-level AI-related laws and regulations, national-level sector-specific AI-related laws and regulations, and data protection laws and regulations that include AI-related clauses or amendments. UNESCO's *Recommendation on the Ethics of Artificial Intelligence* "Recommends that Member States apply on a voluntary basis the provisions of this Recommendation by taking appropriate steps, including whatever legislative or other measures...," and its Article 133 states, "Data collection and processing should be conducted in accordance with international law, national legislation on data protection and data privacy, and the values and principles outlined in this Recommendation." This recommendation aligns with Dimension 11, which assesses the legal framework related to AI.

Dimension 11 currently covers three indicators:

- **D11.1. Whether countries have enacted or are in the process of enacting comprehensive national laws or regulations specifically targeting AI**
  - Data Source: Survey with Local Expert Data Assistance. (Data as of March 2025)
- **D11.2. Whether countries have established national-level vertical laws or regulations specifically addressing AI**
  - Data Source: Survey with Local Expert Data Assistance. (Data as of March 2025)
- **D11.3. Whether countries have implemented national-level data/information protection laws pertaining AI**
  - Data Source: Survey with Local Expert Data Assistance. (Data as of March 2025)

D12. Global AI Governance Engagement

Global AI Governance Engagement refers to the participation of countries in international AI governance affairs through international mechanisms. According to UNESCO's *Recommendation on the Ethics of Artificial Intelligence*, Article 80, countries should "work through international organizations to provide platforms for international cooperation on AI for development." This recommendation aligns with Dimension 12, which assesses the degree of international participation of countries in the field of AI governance.

Dimension 12 currently covers two indicators:

- **D12.1. The participation level in international AI governance mechanisms**

- Data Source: Survey with Local Expert Data Assistance: *Recommendation on the Ethics of Artificial Intelligence 2021*, *Bletchley Declaration 2023*, *Seoul Ministerial Statement 2024*, *Global Digital Compact 2024*, *Statement on Inclusive and Sustainable Al for People and the Planet 2025*, *G20 AI Principles 2019*, *REAIM Call to Action 2023*, *REAIM Blueprint for Action 2024*, *Inaugural Convening of International Network of AI Safety Institutes 2024*. (Data as of March 2025)

- **D12.2. The participation level in ISO AI standardization**
  - Data Source: Participation of ISO/IEC JTC 1/SC 42 (Artificial intelligence).

d) P4. AI Governance Effectiveness

D13. Public Understanding of AI

According to UNESCO's *Recommendation on the Ethics of Artificial Intelligence*, Article 101, member states should "work with international organizations, educational institutions and private and non-governmental entities to provide adequate AI literacy education to the public on all levels in all countries in order to empower people and reduce the digital divides and digital access inequalities resulting from the wide adoption of AI systems." This recommendation aligns with Dimension 13, which assesses whether efforts contribute to promoting public awareness of AI.

Dimension 13 currently covers three indicators:

- **D13.1. The AI-related skill proficiencies of the public**
  - Data Source: OECD PISA math scores; Coursera skill report (number of Coursera learners).
- **D13.2. The level of the public's discussion of AI**
  - Data Source: Google Trends with AI as a label. (Data as of March 2025)
- **D13.3. The level of the public's awareness of AI's impact**
  - Data Source: IPSOS AI MONITOR 2024[19]（How much do you agree or disagree with the following? I have a good understanding of what artificial & I know which types of products and services use artificial intelligence intelligence); OECD Going Digital Toolkit, GDT[20] (Ability of adults to identify online disinformation created by generative AI).

D14. AI Social Acceptance

According to UNESCO's *Recommendation on the Ethics of Artificial Intelligence*, Article 39, ".....allows for public scrutiny that can decrease corruption and discrimination, and can also help detect and prevent negative impacts on human rights. Transparency aims at providing appropriate information to the respective addressees to enable their understanding and foster trust." This value aligns with Dimension 13, which assesses whether there are surveys conducted regarding public attitudes towards AI.

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[19] https://www.ipsos.com/en-us/ipsos-ai-monitor-2024

[20] https://goingdigital.oecd.org/indicator/81

Dimension 14 currently covers four indicators:

- **D14.1. The level of the public's overall recognition towards AI's development**
  - Data Source: IPSOS AI MONITOR 2024 (How much do you agree or disagree with the following? Products and services using artificial intelligence have more benefits than drawbacks; Products and services using artificial intelligence make me excited); OECD GDT: Share of adults who feel AI will have a positive impact on their life.
- **D14.2. The level of the Public's stable expectations on AI's impact on daily life**
  - Data Source: IPSOS AI MONITOR 2024 (How much do you agree or disagree with the following? Products and services using artificial intelligence have profoundly changed my daily life in the past 3-5 years; Do you think the increased use of artificial intelligence will make the following better, worse or stay the same in the next 3-5 years? The amount of disinformation on the internet, my entertainment options, the amount of time it takes me to get things done, my health, my job, the job market, the economy in ...).
- **D14.3. The level of Public's trust in AI applications**
  - Data Source: IPSOS AI MONITOR 2024 (How much do you agree or disagree with the following? I trust that companies that use artificial intelligence will protect my personal data; I trust artificial intelligence to not discriminate or show bias towards any group of people).
- **D14.4. The level of enterprises' positive attitudes towards AI's adoption**
  - Data Source: IBM AI Adoption Index[21] (number of representative companies deploying AI, number of representative companies exploring AI).

D15. AI Development Inclusivity

According to UNESCO's *Recommendation on the Ethics of Artificial Intelligence*, Article 91 states, "Member States should encourage female entrepreneurship, participation and engagement in all stages of an AI system life cycle," and Article 105 states, "Member States should promote the participation and leadership of girls and women, diverse ethnicities and cultures, persons with disabilities, marginalized and vulnerable people or people in vulnerable situations, minorities and all persons not enjoying the full benefits of digital inclusion." These recommendations align with Dimension 15, which evaluates whether the development of AI is inclusive of different groups and genders.

Dimension 15 currently covers five indicators:

- **D15.1. Gender ratio of AI literature authors**
  - Data Source: Based on statistical analysis of the DBLP Computer Science Bibliography literature database. (Data from April 2024 to March 2025)
- **D15.2. Internet gender equality**

[21] https://www.ibm.com/downloads/documents/us-en/107a02e94a48f5c1

- Data Source: The University of Oxford Digital Gender Gaps[22] (Data as of October 2024); OECD GDT (Disparity in Internet use between men and women, Data as of March 2025) .

- **D15.3. Share of young female who can program**
  - Data Source: OECD GDT indicators (Women as a share of all 16-24 year-olds who can program, Data as of March 2025).
- **D15.4. Share of the aged using the internet**
  - Data Source: OECD GDT indicators (Internet user aged 55-74 years, Data as of March 2025)
- **D15.5. Share of the low-income internet users**
  - Data Source: OECD GDT indicators (Low-income internet user, Data as of March 2025)

D16. Data & Algorithm Openness

According to UNESCO's *Recommendation on the Ethics of Artificial Intelligence*, Article 75 states, "Member States should promote open data," and Article 76 states, "Member States should promote and facilitate the use of quality and robust datasets for training, development and use of AI systems, and exercise vigilance in overseeing their collection and use." This recommendation aligns with Dimension 16, which evaluates whether data, algorithms, and models are open to the public.

Dimension 16 currently covers two indicators:

- **D16.1. Number of impactful open AI models and datasets released**
  - Data Source: Based on statistics from the Hugging Face community. (Data as of March 2025)
- **D16.2. The level of contributions in the AI developer community**
  - Data Source: Total GitHub Commits on High-Popularity Open-Source AI Packages. (Data as of March 2025)

D17. AI Governance Research Activity

According to UNESCO's *Recommendation on the Ethics of Artificial Intelligence*, Article 131 states, "Member States should, according to their specific conditions, governing structures and constitutional provisions, credibly and transparently monitor and evaluate policies, programmes and mechanisms related to ethics of AI, using a combination of quantitative and qualitative approaches……(d) strengthening the research- and evidence-based analysis of and reporting on policies regarding AI ethics; (e) collecting and disseminating progress, innovations, research reports, scientific publications, data and statistics regarding policies for AI ethics……". This recommendation aligns with Dimension 17, which evaluates the quantitative analysis of relevant research on AI governance topics.

Dimension 17 currently covers one indicator:

- **D17.1. Total number & the proportion of literature on AI governance topics**
  - Data Source: Based on statistical analysis of the DBLP Computer Science Bibliography literature

[22] https://www.digitalgendergaps.org/

database (Data from April 2024 to March 2025) .

- **D17.2. Total number & the proportion of literature on AI safety topics**
  - Data Source: Based on statistical analysis of the DBLP Computer Science Bibliography literature database (Data from April 2024 to March 2025).
- **D17.3. Total number & the proportion of literature on AI for SDGs topics**
  - Data Source: Based on statistical analysis of the DBLP Computer Science Bibliography literature database (Data from April 2024 to March 2025) .

2. Data Collection and Index Evaluation Methodology

a) Scoring Methodology for Dimension 6. AI Strategy & Planning

When a country has an officially released national-level AI strategy or plan, it scores 100 points for Indicator 6.1 “Whether an AI strategy has been released in the country.” If the country has not yet published such a strategy, it scores 0 points. In this dimension, our judgment of the “national-level overall strategy” primarily includes the strategy, approach, roadmap, and plan. Notably, some countries have multiple versions of their AI strategy, but this does not result in a higher score for Indicator 6.1. When scoring Indicators 6.2–6.4, we use the latest or most representative AI strategy of each country as the evaluation target, and, when necessary, consider other AI strategies published by the country.

Indicator 6.2 “Whether the AI strategy has implementation plans” is scored either 0 points or 100 points. This indicator requires the AI strategy to include quantifiable, verifiable target indicators or propose specific, actionable plans with practical value (in terms of content, not structure). When a country’s AI strategy includes targets or measures that meet these requirements, it scores 100 points; otherwise, it scores 0 points. If a country does not have an AI strategy, it will receive 0 points for this indicator. We believe that, as a national-level overall plan, an AI strategy should be clear and feasible. If an AI strategy only provides vague and broad opinions, it lacks executability and makes it difficult to assess whether its objectives have been achieved.

Indicator 6.3 “Whether the AI strategy mentions training or skills upgrading” and Indicator 6.4 “Whether the AI strategy has an ethical component” use a similar evaluation approach: if mentioned, the score is 100 points; if not mentioned, the score is 0 points. If a country does not have an AI strategy, both indicators will score 0 points. It is important to note that Indicator 6.3 is not entirely

equivalent to talent or education; it requires emphasis on workforce skill training, public awareness improvement, and the enhancement of enrollment plans for relevant disciplines. Indicator 6.4 requires AI's ethical risks and value pursuits to be specifically addressed.

b) Scoring Methodology for Dimension 11. AI Legislation Status

The legal systems of different countries vary. For example, countries like the UK and the US follow the common law system, which is primarily based on case law, while countries like Germany and France follow the civil law system, which relies on codified law. In some countries, executive orders or rulings by the highest courts may carry the same legal weight as laws passed by legislative bodies. Furthermore, different countries have variations in the specific processes and terminology used at various stages such as introduction or proposal, review, approval, assent, promulgation, effective date, and implementation date. To account for these differences, the AI legislation dimension acknowledges all types of legally binding legal documents in scoring, including but not limited to laws, acts or bills, statutes, codes, regulations, amendments, decrees, executive orders, and precedents. In this paper, these are generally referred to as laws or regulations.

If a country has implemented national-level comprehensive AI laws and regulations, it will score 100 points for Indicator 11.1 “Whether countries have enacted or are in the process of enacting comprehensive national laws or regulations specifically targeting AI”. If a country only has AI laws and regulations in the process of being developed, it will score 50 points. If neither is present, the country will score 0 points.

The laws and regulations that meet the requirements of Indicator 11.1 must satisfy the following conditions: First, the law or regulation should be specifically established to govern or develop AI. Therefore, unless in special circumstances, general laws such as cyber laws or information technology laws, while potentially related to or having regulatory authority over AI, are not included in this category. Second, the law or regulation must be national in scope, rather than regional or local. Therefore, laws enacted by provinces or states are not included. Finally, the law or regulation must address AI in general, rather than focusing on a specific subfield of AI. Legislation concerning such subfields will be evaluated under Indicator 11.2.

It is important to note that “in the process of enacting” requires at least a draft or proposal that is available for review. Some countries (e.g., Indonesia) may have legislative plans but do not yet have

a draft or proposal available for public review, in which case the country will score 0 points. If a country's AI comprehensive law has been approved but not yet officially implemented (e.g., South Korea), the country will score 50 points. If a country (e.g., the United States) has both implemented AI comprehensive laws and has AI laws in development, the country will score 100 points. If a country complies with and implements corresponding regional laws, these are considered as national-level AI comprehensive laws and the country will score 100 points. However, if the regional law is still under development, the corresponding country will not score 50 points but rather 0 points.

Indicator 11.2 "Whether countries have established national-level vertical laws or regulations specifically addressing AI" mainly examines the legislation on AI vertical fields in various countries. Different areas of AI technology and applications are considered vertical fields, with typical examples being autonomous driving, generative AI, and others. In Indicator 11.2, in addition to newly enacted laws, we also accept the addition of specific provisions, targeted amendments, or the development of targeted implementation rules to existing laws. These laws and regulations tend to focus more on details rather than broad and comprehensive laws, and their formulation and implementation are relatively vague. Therefore, Indicator 11.2 adopts a more general distinction, no longer considering the "in the process of enacting" stage, but instead using "published" as the scoring standard. A country will score 100 points if it has established national-level laws and regulations for AI vertical fields. If no such laws exist, the country will score 0 points.

Indicator 11.3 "Whether countries have implemented national-level data/information protection laws pertaining AI" follows similar scoring rules to Indicator 11.2. We recognize both specially enacted AI data or information laws and the addition of specific provisions or amendments to existing data protection or personal information laws. Countries with recognized AI data or information protection laws will score 100 points, and those that comply with and implement corresponding regional laws are also included. Countries without such laws will score 0 points. General data protection laws without specific provisions targeting AI are not within the scope of this indicator, but if there is clear evidence that such laws have jurisdiction over AI-related infringement cases, they may be considered as AI-specific data protection laws.

c) Data Collection Method for Literature Analysis

When analysing nationality and gender information in the DBLP Computer Science Bibliography

literature database, we used multiple methods. First, we judged the nationality of the authors. If the author provided an address in the paper, we used this information to determine nationality. Otherwise, we inferred it through the author's collaboration network. We used the *global_gender_predictor* package to determine the gender of authors, based on the *World Gender Name Dictionary Second Edition*. When necessary, titles, abstracts, authors, publication dates, author addresses, article categories, and links information are collected.

To determine if a scientific literature is related to AI, we combined information on publishers and keywords. First, we identified literature published in AI journals or conferences as AI-related. Names and abbreviations of AI-related journals or conferences were extracted from the AMiner literature database's AI journal rankings. Literature published by these publishers was identified as AI-related. Additionally, we compiled a list of keywords for various AI sub-fields (e.g., machine learning, neural networks, reinforcement learning, Bayesian, Markov learning, etc.). If these keywords appeared in the title, the literature was identified as AI-related. To determine if a scientific literature was related to AI governance, we developed a keyword list, including terms such as “for human” “transparency” and “privacy”. The relevance of a paper to governance is determined based on whether these keywords appear in the title.

d) Score Calculation at Each Level

In processing raw scores, we incorporated data entries and statistics from multiple sources for triangulation, enhancing reliability. This is especially useful when small fluctuations in scarce data can significantly impact scores; multiple data sources can reduce bias. Strong correlations between different data elements allow for mutual supplementation in cases of missing data. Where appropriate, ratio scores were considered to ensure fair comparisons between countries with different baseline statistics (such as population and GDP). Finally, percentile-fit normalization (see below) was used to standardize and average various data. In identifying genders, we combined average level inference, allocating 22.9% of unidentified genders as female, and the identified proportion was then percentile-fit normalized and averaged.

Where appropriate, ratio scores were aggregated to ensure fair comparisons between countries at different baseline factor (such as population and GDP). To compute the indicator score, we will use the average normalization score of the total and the ratio. For example, if a country obtains a

normalized score of 5 in total number and 3 in per capita number, then the country's score in this indicator will be 4.

After obtaining indicator scores, we averaged the scores within each dimension and then standardized them to obtain dimension scores. Simple standardization was used to readjust the mean to 50; due to the dispersion of scores based on survey indicators and tools, averages were used without further standardization. We then averaged the dimension scores to obtain pillar scores and averaged the pillar scores to obtain the index score. Here, D4. AI Risk Exposure is a negative factor in P2 aspect, so [100 - dimension score] was used for averaging.

e) Score Normalization and Data Imputation

For simple normalization, we use:

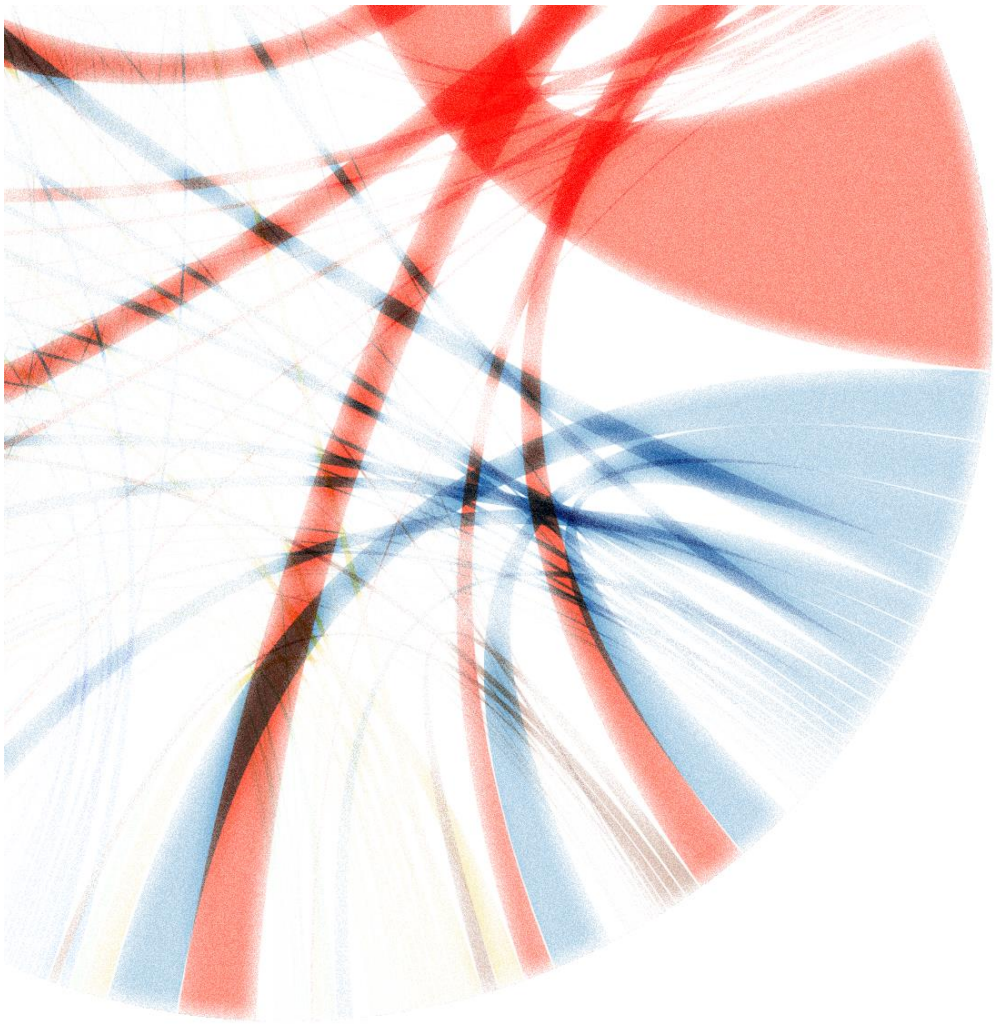
$$25 * \frac{x_n - \mu}{\sigma} + 50$$

where μ is the statistical mean of all countries, σ is the statistical variance, and x_n is the raw data of the country. After standardization, scores exceeding 0 and 100 were truncated to ensure they remained within the 0-100 range. For percentile-fit normalization, after each simple standardization, we extracted and removed one percentile of scores, then repeated the standardization and extraction on the remaining data until four score quartiles were obtained. This was necessary due to significant clustering in the original data and large magnitude differences, requiring adjustment of the standard deviation for better comparison of data at lower scales.

In the case of missing data within an indicator, the imputation shall be carried out in the following order. First, for indicators that were available in the previous year but are missing in the current year, the current value is estimated by calculating the average growth rate of that indicator across all countries and then multiplying the previous year's data by this growth rate. Second, if there is no reference data from previous years, hierarchical imputation is performed. For missing data under the same indicator, we first calculate the indicator score based on the available data. The resulting score is then used to fill in the missing item's score, after which the indicator score is recalculated. Similarly, if the indicator score is missing, we use the same approach to calculate the dimension score from available indicator scores, use the dimension score to impute the missing indicator score,

and then recalculate. If the dimension score is also missing, we apply the same method using the pillar score to impute the dimension score.

3. Links to Illustrations



AGILE Index

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