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Artificial Intelligence Governance Frameworks: A Comparative Study of Rights-Based, Market-Driven, and State-Led Models

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Abstract

The rapid advancement of artificial intelligence has prompted diverse regulatory responses across major global jurisdictions, yet the fragmentation of AI governance frameworks creates complex challenges for innovation, compliance, and international cooperation. This paper provides a comparative analysis of AI governance frameworks, examining three distinct regulatory models: the rights-based approach, the market-driven approach, and the state-led approach. The analysis draws on primary legal and policy documents from the European Union, the United States, and China, supplemented by peer-reviewed literature and policy analyses. The findings reveal that while all three models share common goals of balancing innovation with risk mitigation, significant divergences emerge in legal instruments, enforcement mechanisms, and fundamental values. The rights-based model prioritizes fundamental rights and adopts a precautionary logic, the market-driven model emphasizes innovation with post-hoc oversight, and the state-led model focuses on social stability and governmental control. These differences create a fragmented global landscape that poses practical challenges for multinational enterprises and underscores the urgent need for international dialogue and interoperability mechanisms in AI governance.

Keywords: artificial intelligence governance; regulatory frameworks; comparative analysis; AI regulation; rights-based; market-driven; state-led

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1. Introduction

The emergence of powerful generative and multimodal artificial intelligence models has generated both optimism about their potential benefits and profound concern about the risks they present [1]. Governments, academics, and public sector actors worldwide have expressed a desire to create governance regimes for responsibly harnessing the potential of AI, frequently referred to in policy circles as AI governance [2]. However, the term carries definitional ambiguity, encompassing legally binding regulation, voluntary safety commitments, technical testing standards, and attempts to control the diffusion of foundational model components [1]. This ambiguity reflects the complexity of the challenge: AI technologies are rapidly evolving, their applications are expanding across every sector of the economy, and their potential impacts on society are only beginning to be understood.

Three distinct regulatory models have emerged in response to these challenges: the rights-based approach, the market-driven approach, and the state-led approach [3,4]. Each model reflects deep differences in political values, economic structures, and societal priorities. The rights-based approach, exemplified by comprehensive horizontal legislation, prioritizes the protection of fundamental rights through ex-ante regulation and precautionary principles. The market-driven approach, characterized by decentralized and sector-specific oversight, emphasizes innovation and economic growth with post-hoc intervention only when harm is demonstrated. The state-led approach, distinguished by centralized governance and comprehensive control mechanisms, prioritizes social stability, content quality, and governmental oversight while simultaneously promoting rapid technological development [5].

Bradford (2024) offers a useful starting point for understanding these models, framing the market-driven regime as innovation-oriented, the rights-based regime as precautionary, and the state-led regime as control-focused [5]. Ling and Ma (2025) extend this framework by proposing

three ideal-typical models: Paternal Prevention (exemplified by the rights-based approach), Guardian Supervision (characteristic of the market-driven approach), and Companion Regulation (manifested in the state-led approach) [6]. Each model embodies distinct assumptions about the relationship between the state, the market, and individual rights, as well as different conceptions of how risks should be identified, assessed, and managed.

The period from 2025 through early 2026 has witnessed significant developments in each model. Comprehensive AI legislation has entered into phased implementation, with prohibited practices becoming enforceable and governance rules for general-purpose AI models coming into effect [7]. Executive orders have reshaped federal AI policy, establishing national AI policy frameworks and directing agencies to coordinate their approaches to AI regulation [8]. Legal amendments have been adopted to include dedicated AI governance provisions in existing cybersecurity frameworks, introducing provisions aimed at ensuring the safety and development of AI [9]. These developments underscore the dynamic evolution of AI governance and the tension between competing domestic stakeholders, the gap between formal texts and on-the-ground enforcement, and the reciprocal interplay between regulatory design and industrial development [10].

The fragmentation of AI governance across these three models creates significant challenges. Multinational enterprises must navigate multiple, sometimes conflicting, regulatory requirements across different jurisdictions. The divergence in regulatory approaches also creates opportunities for regulatory arbitrage, potentially undermining the effectiveness of each jurisdiction's efforts. Moreover, the absence of international coordination mechanisms means that AI governance risks becoming a source of geopolitical tension rather than a foundation for global cooperation [11].

This paper provides a comparative analysis of these three AI governance models, examining their regulatory philosophies, institutional designs, and priority areas. The specific objectives are: (1) to identify and characterise the distinct governance models; (2) to analyse key legislative and executive instruments; (3) to compare enforcement mechanisms and institutional architectures; and (4) to assess the implications of regulatory fragmentation for global AI governance and multinational enterprises.

2. Materials and Methods

2.1 Analytical Framework

This study adopts a qualitative comparative approach to examine AI governance frameworks. The analytical framework is organised around five key governance dimensions derived from the literature: legal tools and policy orientation, administrative enforcement and structure, judicial

review and mechanisms of checks and balances, local experimentation and power allocation, and the balance between innovation and precaution [6]. This framework enables systematic comparison of the normative foundations, institutional logics, and strategic approaches each model employs to balance AI innovation with risk mitigation [11].

The first dimension, legal tools and policy orientation, examines the primary instruments through which governance is exercised—whether through comprehensive horizontal legislation, sector-specific regulation, executive orders, or soft law instruments. The second dimension, administrative enforcement and structure, considers how regulatory authority is distributed and exercised—whether through a centralised agency, fragmented sectoral bodies, or multi-agency coordination. The third dimension, judicial review and mechanisms of checks and balances, examines the role of courts and other oversight bodies in constraining and reviewing regulatory action. The fourth dimension, local experimentation and power allocation, considers the extent to which sub-national authorities can develop their own approaches to AI governance. The fifth dimension, the balance between innovation and precaution, examines how each model approaches the fundamental tension between promoting technological development and mitigating risks.

2.2 Data Sources

The analysis draws on primary legal and policy documents from jurisdictions representing each governance model. For the rights-based model, primary sources include comprehensive AI legislation and official commission communications [12]. For the market-driven model, sources include executive orders, federal AI policy frameworks, risk management guidelines, and agency guidance documents [13,14]. For the state-led model, sources include cybersecurity laws, sectoral regulations, AI safety governance frameworks, and data protection legislation [15,16].

Secondary sources include peer-reviewed academic literature on AI governance from journals including *Science and Engineering Ethics*, *AI Ethics*, and *Communications of the ACM*, as well as policy analyses from think tanks and international organisations including the OECD and the European Commission. The period of analysis covers developments from 2018 to early 2026, with particular emphasis on the period from 2024 onwards.

2.3 Comparative Dimensions

The analysis compares the three frameworks across six dimensions derived from the literature: (1) regulatory philosophy and core values; (2) legal instruments and risk classification; (3) institutional architecture and enforcement mechanisms; (4) approach to innovation versus precaution; (5) international influence and extraterritorial reach; and (6) mechanisms for public participation and accountability. Table 1 summarizes the key comparative dimensions.

Table 1. Comparative dimensions of AI governance models.

Dimension	Rights- Based Model	Market- Driven Model	State- Led Model
Regulatory philosophy	Rights- centered, precautionary	Innovation- oriented, market- driven	State- led, stability- focused
Primary legal instrument	Horizontal AI legislation	Executive orders, sectoral laws	Cybersecurity Law, sectoral regulations
Risk classification	Risk-based (tiered system)	Sector- specific, no federal classification	Content-based, national security focus
Enforcement authority	Centralised board, national authorities	Fragmented across multiple agencies	Centralised, multi- agency
Approach to innovation	Rights first, innovation second	Innovate first, patch later	Develop hard, control tight
Extraterritorial ambition	High	Limited	Growing

3. Results

3.1 The Rights-Based Model: Paternal Prevention and Precautionary Regulation

The rights-based approach to AI governance is anchored in fundamental rights frameworks and comprehensive horizontal legislation [12]. This model establishes a risk-based framework that classifies AI systems into multiple tiers: unacceptable risk (prohibited), high risk, limited risk, and minimal risk. Prohibited practices—including social scoring, real-time remote biometric identification in public spaces, and the use of subliminal techniques to distort behaviour—entered into application in early 2025 [7]. Governance rules for general-purpose AI models, including requirements for transparency, copyright compliance, and safety evaluations, became applicable later that year [17].

The regulatory philosophy of the rights-based model embodies a paternal prevention approach, characterised by a risk-averse, precautionary logic centred on preemptively constraining AI

applications that may infringe upon fundamental rights [6]. This model mandates ex-ante compliance measures for high-risk systems, including human oversight, conformity assessments, and post-market monitoring. High-risk systems—encompassing AI applications in critical infrastructure, education, employment, law enforcement, and access to essential services—must undergo rigorous conformity assessments before they can be placed on the market.

The framework is supported by a multilevel enforcement architecture, including a centralised board responsible for coordinating national supervisory authorities and providing guidance on implementation. National authorities have substantial sanctioning powers, including fines of up to €35 million or 7% of global annual turnover, whichever is higher. The rights-based model's extraterritorial ambition is significant, seeking to leverage its market power to export its regulatory framework and establish a global standard for ethical AI [18]. The model has also established a regulatory sandbox mechanism, allowing innovative AI systems to be tested in controlled environments under regulatory supervision.

3.2 The Market-Driven Model: Guardian Supervision and Innovation-First Approach

The market-driven approach to AI governance is characterised by a relatively decentralised, hands-off approach that emphasises innovation and market-driven development [1]. Recent executive orders have repealed prior AI executive orders and directed development of new AI action plans. Subsequent executive orders addressed AI education, national cybersecurity, and established national AI policy frameworks [13,14]. In December 2025, a national AI policy framework was established directing federal agencies to challenge state-level AI regulations and maintain a unified federal approach [8].

This model lacks comprehensive federal AI legislation, relying instead on a decentralized patchwork of sector-specific regulations, supplemented by soft law instruments such as risk management frameworks and executive guidance [11]. Enforcement is fragmented across existing agencies, including the Federal Trade Commission (for consumer protection), the Food and Drug Administration (for medical AI), the Equal Employment Opportunity Commission (for employment-related AI), and the Department of Justice (for civil rights violations), with no centralized authority for AI regulation [6].

The market-driven approach exemplifies a guardian supervision model, emphasising post-hoc oversight within a market-oriented, innovation-friendly environment [6]. The primary strategic priority is maintaining global AI supremacy, reflected in policies that remove regulatory barriers that could impede technological dominance [11]. Several states have launched their own regulatory initiatives, creating a complex domestic patchwork. These state-level initiatives have focused on

transparency and accountability in specific sectors, creating additional compliance burdens for enterprises operating across multiple states. The federal government has responded by asserting its authority to maintain a unified national approach to AI regulation.

3.3 The State-Led Model: Companion Regulation and Centralised Governance

The state-led approach to AI governance follows a pragmatic, incremental trajectory, characterised by "small steps and targeted cuts" [10]. Recent legal amendments have added dedicated articles on AI governance to existing cybersecurity frameworks, introducing provisions aimed at ensuring the safety and development of AI and outlining key priorities including increased support for AI ethics, risk monitoring, and safety assessment [15]. These amendments took effect in early 2026, representing a significant expansion of the regulatory framework for AI.

This model is characterised by a centralised regulatory framework that seeks to harmonise AI innovation with content quality, ethics, data privacy, and governmental oversight [9]. The regulatory framework includes cybersecurity laws, data security laws, and personal information protection laws, alongside sector-specific measures that require AI services to comply with existing laws and implement content review mechanisms [16]. Generative AI services must implement watermarking and content review mechanisms, and must ensure that their outputs align with core values and social stability.

The state-led approach embodies a companion regulation model, seeking to align public governance with industry innovation through flexible, collaborative, and context-sensitive regulatory mechanisms [6]. Recent governance frameworks provide comprehensive guidance on AI safety and governance, reflecting the transition from establishing principles to implementing mechanisms. The regulatory approach has evolved from setting broad principles to developing specific standards and technical requirements, demonstrating a pragmatic and adaptive approach to governance. The centralised system has proved effective for industrial policy and global competitiveness, but raises concerns about long-term constraints on innovation.

4. Discussion

4.1 Interpretation of Findings

The analysis reveals three distinct AI governance models that reflect fundamental differences in political values, legal traditions, and societal priorities. The rights-based model prioritises fundamental rights and adopts a precautionary, risk-averse approach to AI governance. The market-driven model emphasises innovation and market dynamics, relying on post-hoc oversight

and fragmented regulation. The state-led model seeks to balance rapid commercial development with state oversight, prioritising social stability and national sovereignty.

These differences are not merely technical or administrative; they embody competing visions of the relationship between technology, society, and the state. The rights-based model views technology as a potential threat to individual rights that must be constrained through anticipatory regulation. The market-driven model views technology as a driver of economic growth that should be allowed to develop freely with minimal regulatory interference. The state-led model views technology as a strategic asset that must be developed and controlled in the national interest.

The analysis also reveals that while each model has distinctive features, there is some convergence on certain principles, including transparency, accountability, and fairness. However, the interpretation and implementation of these principles varies significantly across models, reflecting different underlying values and institutional contexts.

4.2 Comparison with Existing Literature

The findings align with the tripartite framework proposed by Bradford (2024), which characterises distinct regulatory regimes based on their underlying values and institutional logics [5]. They also support the more nuanced framework of Ling and Ma (2025), which identifies paternal prevention, guardian supervision, and companion regulation as ideal-typical models [6]. The analysis extends this literature by examining recent developments from 2025 to early 2026 and by providing a systematic comparison across multiple dimensions.

The finding that regulatory fragmentation poses challenges for global enterprises aligns with prior work highlighting the complexity of navigating multiple regulatory regimes [11]. The analysis also contributes to the growing literature on AI governance by providing a framework that can be applied to understand regulatory developments in other jurisdictions.

4.3 Challenges and Limitations

Several challenges persist across all three models. First, the gap between formal regulatory texts and on-the-ground enforcement remains significant, particularly in the market-driven model where federal agencies lack comprehensive AI expertise and resources. Second, the rapid pace of technological development means that regulatory frameworks risk becoming obsolete almost as soon as they are implemented. Third, the absence of international coordination mechanisms creates opportunities for regulatory arbitrage and undermines the effectiveness of national governance efforts.

The analysis is subject to several limitations. First, it focuses on three models and may not capture the diversity of approaches in other regions, including the UK, Canada, and emerging

economies. Second, the rapidly evolving nature of both the technology and the regulatory landscape means that some findings may become outdated quickly. Third, the analysis does not quantify the economic costs and benefits of different regulatory approaches.

4.4 Limitations and Future Research

Several limitations should be acknowledged. First, the analysis focuses on three models and may not capture the diversity of approaches in other regions, including the United Kingdom, Canada, and emerging economies. Second, the rapidly evolving nature of both the technology and the regulatory landscape means that some findings may become outdated quickly. Third, the analysis does not quantify the economic costs and benefits of different regulatory approaches.

For policymakers, the analysis suggests several priorities. First, the development of interoperability mechanisms across jurisdictions to reduce compliance burdens for global enterprises and prevent regulatory fragmentation. Second, the establishment of international dialogue platforms to foster mutual understanding and cooperation on AI governance. Third, the harmonisation of core principles—including transparency, accountability, and fairness—across different regulatory frameworks. Fourth, the development of mechanisms for mutual recognition of regulatory compliance, where possible, to reduce duplication and compliance costs.

For multinational enterprises, the analysis suggests that AI governance is increasingly a strategic business issue that requires proactive engagement with regulatory developments across multiple jurisdictions. Firms should invest in compliance capabilities, participate in multistakeholder governance processes, and develop flexible AI systems that can adapt to diverse regulatory requirements.

Future research should conduct quantitative analyses of the economic impact of AI regulation, comparative studies of enforcement effectiveness across jurisdictions, and examinations of the influence of AI governance on innovation patterns. The emergence of new governance mechanisms, including multistakeholder initiatives and international standard-setting bodies, merits further investigation. The interaction between domestic regulatory frameworks and international governance initiatives also represents an important area for future research.

5. Conclusion

The governance of artificial intelligence has emerged as a critical challenge for regulators, policymakers, and enterprises worldwide. Three distinct governance models have emerged: the rights-based model prioritising fundamental rights and adopting a precautionary approach; the market-driven model emphasising innovation and market dynamics with post-hoc oversight; and the

state-led model seeking to balance commercial development with state oversight and social stability.

These divergent approaches create a fragmented global landscape that poses significant challenges for multinational enterprises and underscores the urgent need for international dialogue and interoperability mechanisms. As AI continues to transform economies, societies, and individual rights worldwide, the question of how to govern it will remain at the centre of policy agendas for the foreseeable future.

Author Contributions

Conceptualization, L.B.; methodology, L.B. and W.C.; software, C.M.; validation, W.C.; formal analysis, L.B.; investigation, C.M.; writing—original draft preparation, L.B.; writing—review and editing, all authors. All authors have read and agreed to the published version of the manuscript.

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Ethics Approval

Not applicable

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Conflicts of Interest

The authors declare no conflicts of interest to report regarding the present study.

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