

A systematic literature review on AI governance platforms: ensuring responsible AI deployment

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Abstract

This paper conducts an SLR on the architectural solutions for the AI governance platforms that advocate for ethical, transparent, and legally compliant AI implementation, their performance, and the challenges associated with their frameworks. That said, it reveals that these platforms are designed for responsible AI by being modular, explainable, and compliant with the GDPR and ISO/IEC 42001 standard. However, there are some issues, including no integration, low standardization, and problems with high implementation. The study shall use thematic synthesis to draw conclusions on the technical and regulatory proposals for generalized cross-sectoral application and enhancement of governance. It also aids in strengthening the possibilities used for enhancing the concept of governance mechanisms to foster belief in artificial intelligence systems.

Keywords: AI Governance; Transparency; Compliance; SLR; Architecture; Ethics; Regulation

1. Introduction

AI governance platforms are the most crucial solutions in the management of the proper and legal use of AI. These features include the capability of the model, the exploration of the algorithm, and data handling and compliance automation (Butcher & Beridze, 2019). Such systems are increasingly helpful to guarantee that AI's life cycle is aligned with reference frameworks such as GDPR, ISO/IEC 42001, and the EU AI Act. This helps improve accountability and compliance in the AI development process, as approved by various stakeholders across different organizational settings.

1.1. Problem Statement

While the use of AI governance platforms is now widespread, organizations still encounter issues concerning the implementation of AI ethical principles and regulatory requirements on a large scale. The challenges faced in the existing governance frameworks include interoperability, adaptability, and real-time monitoring and control features, which result in fragmented and higher risk governance in the organization. This is because there is no well-defined set of guidelines at the moment regarding fairness, interpretability, or accountability, which, in turn, affects the cross-sector application of the tools, with increasing attention from the regulatory authorities that have assumed more comprehensive roles as the EU AI Act or NIST AI RMF (Mikalef et al., 2022). There is a need to assess and improve the technical soundness and governance effectiveness of existing AI supervision solutions so that the AI solutions being built now can be viable to maintain, compliant to use, and ethical to employ in the future.

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Aim

The main aim of this research is to carry out an SLR (systematic literature review) to determine the evidence of AI architecture and the effectiveness of the governance platforms in promoting responsible AI adoption and to identify the challenges encountered in implementation.

Objectives

- To review and classify some of the architectural approaches and essential features of AI government solutions.
- To assess the suitability of the selected AI governance platforms for making AI implementations emergent, ethical, transparent, and compliant.
- To identify the general implementation problems and constraints of adopting the AI governance platforms by various industries.

1.2. Research Questions

- What are the most fundamental architectural models and technical elements that characterize modern AI governance platforms?
- To what extent are current AI governance platforms helpful in providing an appropriate, ethical, transparent, and compliant approach to the AI lifecycle?
- What are the primary technical, organizational, and regulatory obstacles to implementing AI governance platforms at scale?

1.3. Research Rationale

Today's rapidly transforming AI environment causes organizations to face the challenge of establishing ethical standards, appropriate methods of algorithm behaviour control, and compliance with legislation (Tapalova & Zhiyebayeva, 2022). The purpose of this research is to offer a systematic evaluation of the governance of AI platforms concerning design and functionality. These aspects require a better understanding and improvement to ensure the increased adoption of responsible AI across multiple sectors, especially considering the new rules outlined in the GDPR, ISO/IEC 42001, and the EU AI Act.

2. Literature Review

2.1. Architectural Frameworks and Core Functionalities

The literature by Rai *et al.* (2019) critiques that while the AI framework's guidelines are robust, its versatility across industries can be challenging since the guidelines are high-level (Henman, 2020). Likewise, the work of Zheng *et al.* (2023) has been applied in recent years to ensure fairness and transparency in AI systems. However, Nitzberg and Zysman (2022) explain that these principles are criticized in practice because there is no common understanding of what fair and inclusive mean in such or similar contexts. Although platforms like the NIST AI RMF and the Microsoft Responsible AI Standard exist, they face challenges in practical application and have common gaps, including the harmonization or integration of their principles.

2.2. Effectiveness in Promoting Ethical and Transparent AI

AI governance platforms are seen as a way of ensuring ethical integrity, transparency, and legal compliance of an AI, and their effectiveness is questionable (Ozman, 2025). According to Alomari *et al.* (2021), increasing the platforms' transparency and explainability enhances trust among stakeholders by enabling them to monitor the decision-making process of AI systems. As per Ferrari (2024), they can enable the avoidance of the harms caused by algorithmic bias and discrimination. However, according to Ulnicane *et al.* (2021), drawing on limitations, such platforms are not easy to implement, and knowledge in this field is needed. According to Gianni *et al.* (2022), there is another aspect that can be considered a significant issue, namely integration with other systems. Furthermore, according to Gorwa (2019), bias may not be eliminated by governance platforms, which speaks to the possibility that constant human supervision might help to tackle this situation.

2.3. Implementation Challenges and Limitations

Despite the potential of using AI governance platforms for promoting more ethical and regulatory compliance, several main issues affect AI governance (Papagiannidis *et al.*, 2023). The authors Tapalova and Zhiyebayeva (2022) stated in their article that businesses still face various challenges, particularly in utilizing AI and implementing measures to

mitigate its adverse impacts. According to Meskó and Topol (2023), these risks require adequate AI governance practices to be put in place. However, Benbya *et al.* (2020) note that AI governance can have positive effects if organizations effectively identify and adopt best practices from a pool of identified practices for governing AI. Indeed, this study, based on the comparative analysis of three firms in the energy sector, identifies key governance factors and provides guidelines on how to avoid obstacles and facilitate the attainment of the intended impacts of AI.

2.4. Theoretical Framework

The concepts presented in this study are therefore relevant to the Responsible Innovation Theory (RIT) and the Technology Governance Theory (TGT). RIT stresses the identification of probable ethical, social, and environmental implications of the product. According to Salako *et al.* (2024), innovation needs to be participative, self-aware, and adaptive. This theory will facilitate the assessment of how these AI governance platforms are helpful in the enactment of these core values of society. TGT deals with the way rules and processes, as well as institutions, are employed in overseeing technology and risk (Gorwa, 2019).

3. Materials and Methods

3.1. Search Strategy

Using the SLR method helps in providing high accuracy, systematic, and reproducible conduct of the review on the scholarly literature about AI governance platforms and responsible deployment of AI (Eitel-Porter, 2021). Boolean operators were used in constructing search terms to improve the amount of specificity. Therefore, the identified keyword string for the search was (“AI governance” OR “artificial intelligence governance” OR “AI ethics platform” OR “responsible AI”) AND (“deployment” OR “regulation” OR “compliance” OR “platform” OR “framework”).

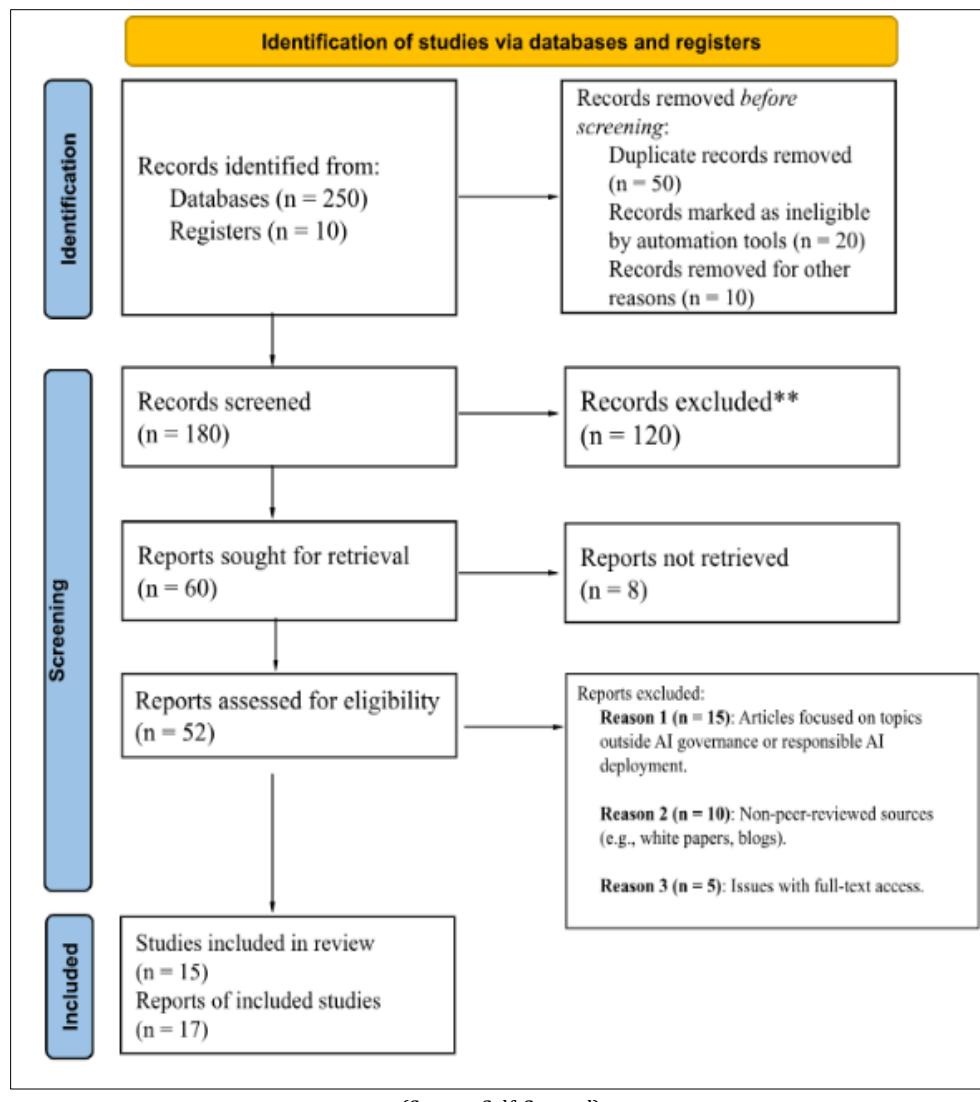
Table 1 Inclusion and Exclusion Criteria for SLR

Inclusion Criteria	Exclusion Criteria
• Articles published between 2019 and 2025	• Non-peer-reviewed sources (e.g., blogs, editorials)
• Peer-reviewed journal articles	• Articles unrelated to governance or AI deployment
• Written in English	• Papers lacking full-text access
• Focused on AI governance platforms and their role in ethical, transparent, and compliant AI deployment	• Articles not focused on governance or AI ethics

(Source: Self-Created)

3.2. Study Selection Using PRISMA Framework

The guidelines of the protocol used in this study were based on PRISMA 2020 to identify the articles under consideration systematically. For this SLR, the articles were sourced from databases (250) and registers (10) (Deshpande & Sharp, 2022). Following the removal of duplicate papers ($n = 50$) and papers not included in the target population ($n = 20$), 180 papers were reviewed. In total, 120 papers were excluded based on their relevance and other criteria. The 60 articles identified by the search terms had their full-text articles requested; however, eight of the reports could not be obtained. Fifty-two articles were finally reviewed for inclusion and exclusion due to factors such as being non-refereed or not available in full-text (Dunleavy & Margetts, 2025). Finally, 17 studies were selected for the thematic analysis. Figure 3.2 below is a complete diagram of PRISMA.



(Source: Self-Created)

Figure 1 Prisma Diagram

3.3. Data Analysis Technique

This study used a “thematic analysis approach” to integrate findings derived from the selected academic and grey literature sources (Krook, 2025). An SLR framework guided the literature review, and studies were coded and sorted into the following three broad categories: architectural frameworks, performance, pros and cons, and issues of AI governance platforms (Stogiannos et al., 2024). Both sources of information were assessed for relevance based on these criteria and critically looked at to discover the patterns, the existing, and the divergent views (Vogl, 2021). This qualitative method proved practical for interpreting intricate governance issues, aligning them with the research objectives and questions, and providing a general overview of the pros and cons of modern AI governance (Taeihagh, 2021).

4. Results

4.1. Theme 1: Architectural Frameworks and Core Functionalities of AI Governance Platforms

This theme is relevant to the research’s objective since it explores one of the critical elements of developing structures for AI governance architectural foundations. It also investigates several technical perspectives on systematizing and regulating analytics and intelligence, demonstrating ways that governance is integrated into design. Chen et al. (2024) presented a layered system for risk management and governance controls, ensuring a technical approach in line with the principles of responsible AI. To this, Lu et al., (2024) and Li, (2023), add a compilation of the reusable design patterns

for integrating AI ethics, which appears to provide categorisation as a fundamental method for providing standardisation in line with ISO/ IEC 42001, the Standard for AI Management Systems, as well as the NIST AI Risk Management Framework (Tzachor et al., 2022; Vrontis et al., 2023).

Based on this observation, Pujari *et al.* (2024) put forth the idea of modular governance for directing autonomous systems, which is an obvious requirement for scalable AI environments with distributed oversight. Sonani and Govindarajan (2025) emphasize how to implement compliance solutions to be used within the cloud platforms to align with the OECD AI Principles, as well as for councils contained in the EU AI Act proposals. To maintain good practices for designing, developing, and implementing AI solutions, Baldassarre *et al.* (2024) list several practices to avoid problems. In contrast, Werder *et al.* (2022) focus on the idea of data provenance to improve the traceability and accountability of AI systems. Altogether, these contributions offer key aspects that describe the type of architectural requirements and frameworks needed for the development of AI governance platforms that are not only ethical but also sustainable and technically sound [Refer to Appendix 2].

4.2. Theme 2: Effectiveness of AI Governance Platforms

The theme focuses on how AI governance practices guarantee proper and appropriate AI implementations. Radanliev *et al.* (2024) evaluate the efficacy of regulating AI by considering the contribution of the regulation tools towards governance. In the paper by Camilleri (2024), AI policies establish the social responsibility where the accountability of platforms relates to outcome-based objectives. The paper by Roski *et al.* (2021) is on industry self-regulation, where they encourage the use of voluntary ethical principles to increase trust and accountability in AI systems. In their theoretical research, Burr and Leslie (2023) present a framework for ethical assurance with the help of case studies assessing the effectiveness of the specified types of governance. Roberts *et al.* (2023) discuss the current state of AI governance in the UK and evaluate the degree to which written regulations offer the required safeguards. Lastly, Díaz-Rodríguez *et al.* (2023) align AI ethics with the law since the platforms act as a link between the ethical norms and the legal standards. Altogether, these studies talk about the need to ensure proper ethical regulatory [Refer to Appendix 2].

4.3. Theme 3: Implementation Challenges and Sectoral Limitations

This theme focuses on the real-life issues that arise and the constraints of the specific sectors concerning AI governance platforms. To attain a consolidated framework regarding responsible AI, Batoool *et al.* (2023) examine their literature where they identify gaps in fragmentation, scalability, and misalignment of stakeholders, which affect the governance supply chain. Esmaeilzadeh (2024) discusses the healthcare industry to explore issues such as compatibility and trust, as the author underlines, governing structures cannot easily be applied to specific segments of the industry. Also, Reddy *et al.* (2020) proposed another clinical governance model for artificial intelligence healthcare, having structural issues within highly bureaucratic systems. Birkstedt *et al.* (2023) also observe that there is still a vital knowledge gap, and they indicate that there are both theoretical and pragmatic barriers across various sectors to building the fabric of AI governance. Further, Anagnostou *et al.* (2022) provided the industry-level view of the different challenges, which include policy and regulatory challenges, technical challenges, and context-related challenges. These papers collectively suggest that even though there is literature on good practice for AI governance, there are still substantial problems. These problems are related to implementing these systematic guidelines in practice due to the bureaucratic and sector-specific nature of AI decision-making processes [Refer to Appendix 2].

5. Discussion

These findings effectively answer the research questions and contribute to the literature by providing an overview of the actual background of AI governance platforms, evaluating how effective they are in their functions, and identifying the problems that may be encountered when adopting the platforms (De Almeida *et al.*, 2021). The first theme relates to the first research question as it discusses major architectural frameworks such as layered, modular, and cloud-interconnected ones (Chen *et al.*, 2024; Pujari *et al.*, 2024; Sonani & Govindarajan, 2025); standardization and traceability are described as fundamentals. Theme 2 is also a direct answer to Research Question 2 concerning the performance of governance platforms in terms of practicality, ethics, and transparency of the AI lifecycle. For example, Burr and Leslie (2023) and Díaz-Rodríguez *et al.* (2023) show that ethical assurance and regulation can be ensured when governance is included in design and policy, respectively. However, as determined by Theme 3 targeting Research Question 3, many sectoral issues such as interoperability, incongruity of regulation, and resistance from stakeholders (Esmaeilzadeh, 2024; Anagnostou *et al.*, 2022) remain to be addressed. These outcomes support the statements of Rai *et al.* (2019) and Ulnicane *et al.* (2021) as to the inapplicability of such general concepts of governance across various industries. Thus, governance platforms can serve as a helpful model; however, they must overcome several barriers, which include contextual issues, ethical dilemmas, and the need to integrate platforms for AI to be implemented in an organized and accountable manner within various sectors.

6. Conclusion

6.1. Summary of Key Findings

This research aimed to identify the structure, efficiency, and main difficulties in the application of AI governance platforms in an SLR. The analysis revealed that AI governance is a multi-factor construct where the structural support should be adequately established in the organization; the AI system should have evidential records in ethical assurance and compliance; there are barriers to AI implementation that are sector-dependent and must be addressed. The results also observed that the modern platforms of governance in this field are diverse, tiered, block-based, and scalable with AI, as well as cloud-integrated designs that integrate governance controls into AI systems. Transparency, accountability, and responsibility are well-supported by these architectural models. However, some of their hurdles occurred in implementation across the sectors, as pointed out in the research. Some of these include limits in interoperability, a lack of cohesion between stakeholders, and standards in policies preventing the standard use of the platforms applicable in areas of high security concern, including the health sector (Cihon, 2019). Therefore, it can be concluded that, in general, there is a vast conceptual potential within AI governance platforms. However, their practical use is still problematic and largely depends on the sectoral adaptability and the preparedness of the environment.

6.2. Linking Findings with Objectives

The findings discussed in this study align with the specified research objectives of this research. It identifies and explains Theme 1 as fulfilling Objective 1, which focuses on the discovery of the architectural design of governance platforms for AI. Various forms of governance have been discussed in recent studies, such as layered, modular, and cloud-based governance by Chen et al. (2024) and Sonani and Govindarajan (2025). Such frameworks not only determine the technical architecture of governance systems but also incorporate documentation of processes related to traceability and compliance with ISO/IEC 42001 and NIST's AI RMF. The second objective of the paper, which is to assess the extent to which governance platforms can guarantee the ethical usage of AI, is captured in the second theme. This review shows that the integration of governance in the design and policy layers allows for better ethical supervision and regulatory approval, as illustrated by Burr and Leslie (2023) and Díaz-Rodríguez et al (2023). Theme 3, which investigated the challenges to governance platforms, addresses the fulfilment of the third research objective. Several limitations have been mentioned in the literature as hindering AI uptake, including problems of compatibility, low confidence in AI systems, and a poor fit of governance frameworks for sectors and industries such as healthcare and other regulated areas. These outcomes highlight the necessity for more context-sensitive approaches to governance for this research.

Recommendations

The following are suggested strategies for improving AI governance platforms by the government. First, there is an urgent need for internationalization of AI governance frameworks by calls to industries to embrace existing ones, such as ISO/IEC 42001 and NIST AI Risk Management Frameworks. Some of these can offer a common framework within and between different sectors and jurisdictions. Secondly, it specified that AI governance platforms need to progress beyond these general models and come up with sector-related adaptations. For instance, in the healthcare industry, there are such challenges as a lack of trust, integration, and fragmentation of governance structures. Thirdly, the organization must encourage the cooperation of multiple stakeholders. Inclusive governance can therefore involve regulators, developers, users, and other stakeholders to ensure that the ethical, legal, or social implications are balanced in the right proportion. Fourthly, the investment in the understanding of the governance competencies of artificial intelligence is necessary.

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Appendices

Appendix 1 Summary Table

Authors	Theme	Key Findings	Methodology	Implications
Radanliev et al. (2024)	Ethical and Transparent Deployment	Highlights ethical considerations for responsible AI use, identifying gaps in current deployment models.	Theoretical analysis, case examples	Stresses need for ethical frameworks in governance platforms
Lu et al. (2024)	Architectural Frameworks	Provides a taxonomy of AI governance patterns and engineering best practices.	Systematic pattern collection and classification	Enables structured design of governance frameworks
Batool et al. (2023)	Effectiveness and Evaluation	Reviews current state of responsible AI governance models; identifies gaps and future directions.	SLR	Points to lack of real-world effectiveness measurement
Camilleri (2024)	Ethical and Transparent Deployment	Discusses social responsibility and ethical dilemmas in AI governance.	Conceptual analysis	Promotes integration of CSR principles into AI systems
Chen et al. (2024)	Architectural Frameworks	Proposes architectural framework for AI safety including risk mitigation and compliance.	Framework development with technical detail	Aids design of robust AI systems
Salako et al. (2024)	Implementation Challenges	Focuses on data security and regulatory compliance in AI cloud systems.	Qualitative analysis, use cases	Supports secure AI governance practices
Cihon (2019)	Global Coordination and Standards	Advocates for international AI standards to promote safety and innovation	Policy analysis	Encourages harmonized standards to reduce regulatory fragmentation
Esmaeilzadeh (2024)	Sector-Specific Governance (Healthcare)	Identifies barriers like data security and lack of trust; proposes strategic frameworks	Perspective analysis (healthcare setting)	Emphasizes need for sector-specific AI governance protocols
Reddy et al. (2020)	Sector-Specific Governance (Healthcare)	Introduces layered governance model (technical, organizational, societal) for safe AI use in health	Conceptual framework	Enhances ethical and effective AI implementation in health systems
Birkstedt et al. (2023)	Knowledge Gaps and Research Agendas	Maps literature, identifies underexplored areas (e.g., enforcement mechanisms)	SLR	Calls for cross-disciplinary, forward-looking governance models
Deshpande and Sharp (2022)	Stakeholder Analysis	Identifies roles/responsibilities across AI lifecycle, especially marginalized stakeholders	Empirical, stakeholder mapping	Ensures inclusion of all stakeholders in governance strategies
Eitel-Porter (2021)	Implementation Challenges	Emphasizes the 'implementation gap' between principles and practice	Case-based discussion	Urges companies to operationalize ethics in AI development pipelines
Pujari et al. (2024)	Framework Design for Complex AI	Explores governance policies in multi-agent and decentralised systems	Theoretical with case implications	Supports complex, adaptable frameworks for AI ecosystems

Roski et al. (2021)	Industry Self-Governance	Industry-led frameworks can complement public regulation in healthcare AI	Sectoral case study (US health sector)	Encourages hybrid (public-private) governance models
Burr and Leslie (2023)	Assurance and Ethics	Proposes "ethical assurance" lifecycle approach to responsible AI	Practice-based framework	Helps embed ethics into AI system design from the outset
Sonani and Govindarajan (2025)	Legal and Ethical Compliance	Presents a cloud-integrated reinforcement model for compliance in regulatory AI use	Technical framework with legal mapping	Strengthens alignment of technical systems with legal mandates
Mikalef et al. (2022)	Ethical Risks and AI's Dark Side	Discusses potential risks and harms of AI, including bias and discrimination	Conceptual analysis	Stresses the need to address the "dark side" through ethical AI practices
Baldassarre et al. (2024)	Human Rights and AI	Proposes best practices for ensuring human rights are embedded in AI systems	Systematic review	Calls for an integrated approach to AI governance with a focus on human rights
Werder et al. (2022)	Data Governance	Highlights the importance of data provenance in ensuring responsible AI deployment	Empirical analysis	Recommends enhanced transparency in data sources and processing for trust-building
Papagiannidis et al. (2023)	Best Practices and Barriers	Identifies key practices and barriers to effective AI governance across sectors	Literature review	Urges the identification of scalable governance practices to overcome implementation barriers
Taeihagh (2021)	Policy and Governance Frameworks	Analyses different governance approaches for AI at the policy level	Policy analysis	Promotes multi-stakeholder collaboration to design adaptive and comprehensive AI policies
Cheng et al. (2021)	Algorithmic Responsibility	Discusses the ethical and social implications of algorithm design in AI systems	Conceptual and theoretical	Encourages the integration of social responsibility into AI algorithmic design
Li et al. (2023)	Trust and AI Principles	Reviews the gap between AI principles and their practical application	Survey and review	Proposes frameworks to bridge the gap between ethical guidelines and real-world implementation
Tzachor et al. (2022)	Sector-Specific Governance (Agriculture)	Explores AI's role in agriculture, highlighting environmental and societal risks	Case study and systemic analysis	Recommends systems-level governance frameworks to mitigate agricultural risks
Anagnostou et al. (2022)	Sectoral Challenges in AI	Identifies industry-specific challenges in implementing responsible AI	SLR	Proposes tailored AI governance strategies for different industries based on identified challenges
Butcher and Beridze (2019)	Global Governance Landscape	Reviews the current global AI governance landscape, assessing effectiveness and gaps	Comparative analysis	Calls for global coordination and cohesive governance structures to address AI challenges
Roberts et al. (2023)	AI Regulation and Governance	Explores the UK's potential leadership role in AI	Conceptual analysis	Highlights the need for effective AI regulation to

		governance, examining regulatory challenges		ensure global leadership and ethical AI practices
Krook et al. (2025)	AI Transparency and Legal Governance	Provides a socio-legal analysis of transparency laws in AI across the EU and UK, identifying key governance principles	SLR	Advocates for more robust and standardised AI transparency regulations in the EU and UK
Stogiannos et al. (2024)	AI in Healthcare and Governance	Investigates AI's role in healthcare governance, specifically for radiographers, highlighting challenges and opportunities	Empirical survey	Calls for increased training in AI governance for healthcare professionals to foster better AI adoption
Vogl (2021)	AI in Local Government and Governance	Discusses the potential of AI to enhance governance in UK local authorities, focusing on opportunities and challenges	Case study	Encourages local governments to implement AI for better service delivery and public governance
Nitzberg and Zysman (2022)	AI Governance and Platforms	Identifies challenges in AI governance, focusing on algorithmic accountability, data, and platform regulation	Theoretical and empirical analysis	Highlights the need for diverse, flexible governance frameworks to address the complexities of AI in platforms
Dunleavy and Margetts (2025)	AI and Digital Governance	Explores the impact of AI and data science on governance in the digital era, focusing on evolving policy challenges	Conceptual analysis	Calls for new governance frameworks to manage the increasing role of AI in digital governance
De Almeida et al. (2021)	AI Regulation Frameworks	Proposes a regulatory framework for AI, emphasizing the need for clear guidelines and ethical considerations	Framework development	Recommends the establishment of a standardised regulatory approach to manage AI across sectors
Gorwa (2019)	Platform Governance	Defines platform governance and examines the role of platforms in regulating digital interactions and data flow	Conceptual analysis	Suggests that platform governance needs clearer regulation to ensure fairness and transparency
Tapalova and Zhiyenbayeva (2022)	AI in Education	Explores the role of AI in creating personalised learning pathways in education	Case study	Advocates for AI-driven educational systems to support personalized learning at scale
Meskó and Topol (2023)	AI in Healthcare Regulation	Discusses the need for regulatory oversight of generative AI models in healthcare to ensure ethical use	Literature review	Calls for the implementation of regulatory frameworks to oversee the use of AI in healthcare, especially generative models
Benbya et al. (2020)	AI Organisations in	Reviews the current state of AI implementation in organisations, identifying future opportunities and challenges	Literature review	Suggests that organisations need to focus on AI integration strategies and governance to enhance productivity
Stahl (2021)	AI Ethics and Governance	Explores ethical challenges and governance frameworks needed to ensure AI benefits society	Conceptual analysis	Emphasizes the importance of an ecosystem approach for AI

				governance and ethical considerations in AI development
Stone et al. (2020)	AI in Marketing	Identifies opportunities and challenges in using AI for strategic marketing, proposing a framework for future research	Literature review	Calls for further exploration of AI's role in marketing decisions and its potential to revolutionise marketing strategies
Henman (2020)	AI in Public Services	Discusses the potential of AI to improve public services while highlighting governance issues and risks	Empirical case study	Argues for well-designed governance frameworks to mitigate risks and maximise AI benefits in the public sector
Chan (2023)	AI Policy and Education	Proposes a framework for AI policy education in universities to enhance understanding of AI governance among students	Framework development	Suggests integrating AI policy education into university curricula to prepare future professionals for the evolving AI landscape
Vrontis et al. (2023)	AI in Human Resource Management	Reviews the impact of AI and robotics on HRM, focusing on automation, decision-making, and workforce management	Systematic review	Highlights the importance of adaptive HR policies and governance to address challenges posed by AI and robotics in HRM
Rai et al. (2019)	AI in Digital Platforms	Explores the integration of human and AI capabilities in digital platforms, emphasising hybrid models	Literature review	Calls for new governance approaches that combine human intelligence with AI to enhance decision-making in digital platforms
Zheng et al. (2023)	AI in Platform Governance	Analyses AI's role in platform governance, focusing on how platforms are governed in the digital economy	Conceptual analysis	Proposes new governance models for AI platforms in the digital economy to address transparency and accountability challenges
Nitzberg and Zysman (2022)	AI Governance and Platforms	Discusses the governance challenges of algorithms, data, and AI platforms, focusing on accountability	Theoretical and empirical analysis	Emphasizes the need for diverse governance frameworks to address the complexities of AI platforms and algorithms
Alomari et al. (2021)	AI in Platform Governance	Investigates AI-based platforms for governance and access control, focusing on security and privacy concerns	Systematic analysis	Recommends stronger access control and governance mechanisms for AI platforms to enhance security and privacy
Ferrari (2024)	AI Regulation and Platform Governance	Explores the role of states in regulating AI platforms, focusing on regulatory geographies and state intervention	Conceptual analysis	Argues for more coordinated state-level interventions to regulate AI platforms and ensure fairness in the digital economy
Ulnicane et al. (2021)	AI Policy and Governance	Analyses how AI governance is framed in policy discussions	Case study analysis	Highlights the importance of clear and inclusive AI policies that address

		focusing on contested issues and challenges		contested issues to ensure balanced governance	
Gianni et al. (2022)	Responsible Governance	AI	Discusses the transition from ethical guidelines to cooperative policies in AI governance, focusing on responsible development	Literature review and policy analysis	Proposes cooperative governance mechanisms to ensure responsible AI development and implementation in various sectors

(Source: Self-Created)

Appendix 2 Thematic Table

Theme 1: Architectural Frameworks and Core Functionalities of AI Governance Platforms

Author(s) and Year	Focus Area	Key Findings	Relevance to Theme
Chen et al. (2024)	Architectural framework for AI safety	Introduces a layered framework focusing on risk mitigation and governance controls	Offers a comprehensive technical view of AI governance architecture
Lu et al. (2024)	Pattern catalogue for AI governance	Catalogues reusable design patterns for AI ethics integration	Framework-based classification of governance mechanisms
Pujari et al. (2024)	Multi-agent systems governance	Emphasises modular governance for autonomous systems	Presents functional models for distributed AI governance
Sonani and Govindarajan (2025)	Cloud-integrated AI governance	Proposes a framework integrating cloud compliance and legal reinforcement	Demonstrates infrastructural integration for AI oversight
Baldassarre et al. (2024)	Industry best practices	Maps out technical practices supporting responsible AI in industry	Defines structural and practical features of governance tools
Werder et al. (2022)	Data provenance	Emphasises traceability in AI development processes	Links data lineage to functional governance components

Theme 2: Effectiveness of AI Governance Platforms in Ensuring Ethics, Transparency, and Compliance

Author(s) and Year	Focus Area	Key Findings	Relevance to Theme	
Radanliev et al., (2024)	Responsible deployment	AI	Assesses the ethical impact of AI regulation tools	Measures the ethical efficacy of governance frameworks
Camilleri (2024)	Ethical governance	AI	Evaluates the role of AI policies in promoting social responsibility	Reflects on AI platform accountability and outcomes
Roski et al. (2021)	Industry self-governance		Promotes trust via voluntary ethical frameworks	Real-world application of governance promoting transparency
Burr and Leslie (2023)	Ethical assurance		Proposes a practical framework for integrating ethical principles	Case-based validation of ethical governance performance
Roberts et al. (2023)	UK AI regulation		Reviews governance maturity in UK lawmaking	Evaluates compliance effectiveness of formal policies
Díaz-Rodríguez et al. (2023)	Ethics to regulation pipeline		Bridges AI ethics principles with legal frameworks	Maps how well platforms ensure compliance with ethics

Theme 3 Implementation Challenges and Sectoral Limitations of AI Governance Platforms

Author(s) and Year	Focus Area	Key Findings	Relevance to Theme
Batool et al. (2023)	Literature synthesis on responsible AI	Identifies fragmentation, scalability, and stakeholder misalignment	Highlights widespread deployment obstacles
Esmaeilzadeh (2024)	Healthcare sector deployment	Addresses interoperability and trust barriers	Sector-specific governance adoption challenges
Reddy et al. (2020)	Healthcare governance model	Introduces a governance structure for clinical AI	Practical barriers in regulated environments
Birkstedt et al. (2023)	Knowledge gaps in AI governance	Maps' limitations in conceptual and practical integration	Summarises adoption issues across industries
Anagnostou et al. (2022)	Industry-specific adoption challenges	Industry-wide review of obstacles to responsible AI	Provides a sectoral overview of limitations